

SERVICE MANUAL

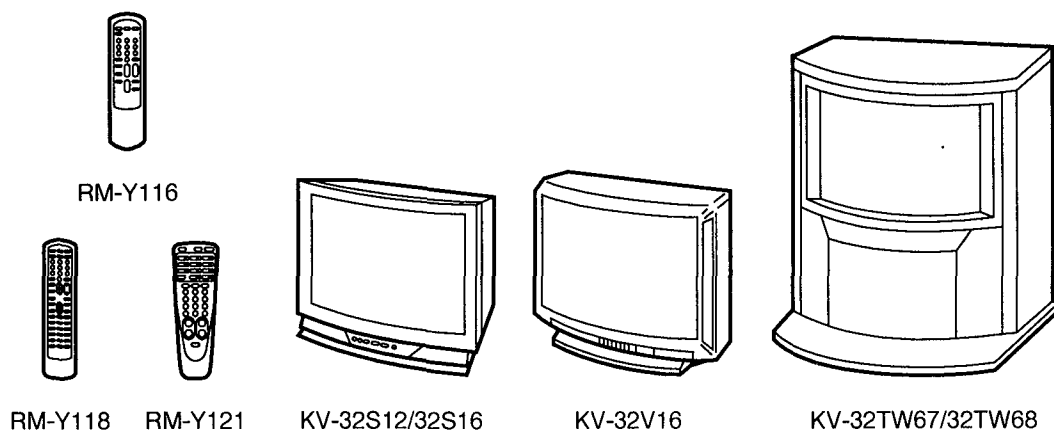
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<u>MODEL</u>	<u>COMMANDER</u>	<u>DEST.</u>	<u>CHASSIS NO.</u>	<u>MODEL</u>	<u>COMMANDER</u>	<u>DEST.</u>	<u>CHASSIS NO.</u>
KV-32S12	RM-Y116	US	SCC-F84V-A	KV-32TW67	RM-Y118	US	SCC-F84Y-A
KV-32S12	RM-Y116	Canadian	SCC-F85S-A	KV-32TW68	RM-Y118	US	SCC-H76A-A
KV-32S16	RM-Y121	US	SCC-F84W-A	KV-32V16	RM-Y121	US	SCC-F84X-A
KV-32S16	RM-Y121	Canadian	SCC-F85T-A	KV-32V16	RM-Y121	Canadian	SCC-F85R-A

Note :

1. Adjustment Manual for this model is separately published.

	Adjustment Manual
Part No.	9-965-038-01



MC-Service

TRINITRON® COLOR TV
SONY®

※ Please file according to model size. ■

SPECIFICATIONS

KV-32S12

Television system	American TV standards
Channel coverage	VHF : 2 - 13 UHF : 14 - 69 CATV : 1 - 125
Picture tube	Hi-Black™ Trinitron® tube 32-inch picture measured diagonally
Antenna	75-ohm external antenna terminal for VHF/UHF
Input	VIDEO and S VIDEO S VIDEO IN Y : 1 Vp-p, 75-ohms unbalanced, sync negative C : 0.286 Vp-p (Burst signal), 75-ohms Video : 1 Vp-p, 75-ohms unbalanced, sync negative Audio : 500 mVrms (100% modulation) Impedance : 47 kilo-ohms
Speaker output	5 W x 2
Power requirements	120 V AC, 60 Hz
Power consumption	When in use : 190 W In standby : 6 W
Dimensions (W/H/D)	781 x 714 x 613 mm (30 3/4 x 28 1/8 x 24 1/4 inches)
Weight	69 kg (152 lbs 9 oz)
Supplied accessories	Remote Commander RM-Y116 (1) with 2 size AA (R6) batteries
Optional accessories	U/V mixer EAC-66 Connecting cable VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A

KV-32S16

Television system	American TV standards
Channel coverage	VHF : 2 - 13 UHF : 14 - 69 CATV : 1 - 125
Picture tube	Hi-Black™ Trinitron® tube 32-inch picture measured diagonally
Antenna	75-ohm external antenna terminal for VHF/UHF
Input	VIDEO and S VIDEO S VIDEO IN Y : 1 Vp-p, 75-ohms unbalanced, sync negative C : 0.286 Vp-p (Burst signal), 75-ohms Video : 1 Vp-p, 75-ohms unbalanced, sync negative Audio : 500 mVrms (100% modulation) Impedance : 47 kilo-ohms
Output	AUDIO OUT : More than 408 mVrms at the

maximum volume setting (variable)
More than 408 mVrms (fix)
Impedances : 5 kilo-ohms
Speaker output
5 W x 2
Power requirements
120 V AC, 60 Hz
Power consumption
When in use : 195 W
In standby : 6 W
Dimensions (W/H/D)
781 x 714 x 613 mm
(30 3/4 x 28 1/8 x 24 1/4 inches)
Weight
69 kg (152 lbs 9 oz)
Supplied accessories
Remote Commander RM-Y121 (1) with 1 size AA (R6) battery
Optional accessories
U/V mixer EAC-66
Connecting cable
VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A

KV-32TW67/68

Television system	American TV standards
Channel coverage	VHF : 2 - 13 UHF : 14 - 69 CATV : 1 - 125
Picture tube	Hi-Black Trinitron® tube 32-inch picture measured diagonally
Antenna	75-ohm external antenna terminal for VHF/UHF
Input	VIDEO and S VIDEO S VIDEO IN Y : 1 Vp-p, 75-ohms unbalanced, sync negative C : 0.286 Vp-p (Burst signal), 75-ohms Video : 1 Vp-p, 75-ohms unbalanced, sync negative Audio : 500 mVrms (100% modulation) Impedance : 47 kilo-ohms
Output	AUDIO : More than 408 mVrms at the maximum volume setting (variable) More than 408 mVrms (fix) Impedances : 5 kilo-ohms
Speaker output	5 W x 2 Audio frequency response : Front 80 Hz - 20 KHz
Power requirements	120 V AC, 60 Hz
Power consumption	When in use : 195 W In standby : 6 W
Dimensions (W/H/D)	895 x 1117 x 700 mm (35 1/4 x 44 x 27 5/8 inches)
Weight	108.6 kg (239 lbs)
Supplied accessories	Remote Commander RM-Y118 (1) with 1 size AA (R6) battery
Optional accessories	U/V mixer EAC-66 Connecting cable VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A

KV-32V16

Television system	American TV standards	Speaker output	5 W x 2
Channel coverage	VHF : 2 - 13	Power requirements	120 V AC, 60 Hz
	UHF : 14 - 69	Power consumption	When in use : 205 W
	CATV : 1 - 125		In standby : 6.5 W
Picture tube	Hi-Black™ Trinitron® tube	Dimensions (W/H/D)	801 x 664 x 603 mm
	32-inch (736mm) picture measured diagonally		(31 5/8 x 26 1/4 x 23 3/4 inches)
Antenna	75-ohm external antenna terminal for VHF/UHF	Weight	70 kg (154 lbs 2 oz)
Input	VIDEO and S VIDEO	Supplied accessories	Remote Commander RM-Y121 (1) with 1 size AA (R6) battery RM-CM101
	Video : 1 Vp-p, 75-ohms unbalanced, sync negative	Optional accessories	U/V mixer EAC-66
	Audio : 500 mVrms (100% modulation)		Connecting cable
	Impedance : 47 kilo-ohms		VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A
Output	AUDIO OUT : More than 408 mVrms at the maximum volume setting (variable) More than 408 mVrms (fix) Impedances : 5 kilo-ohms		

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE DE ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DEPANNAGE. LE CHÂSSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT (US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

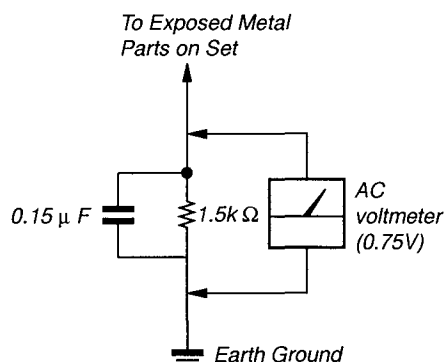


Fig. A. Using an AC voltmeter to check AC leakage.

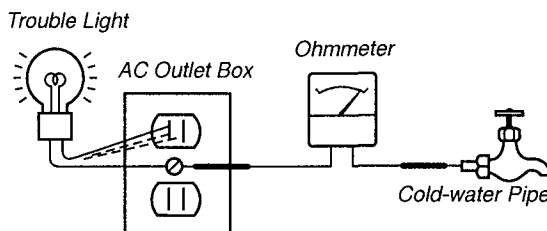


Fig. B. Checking for earth ground.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL					
	Hook up	6		2-7. Picture Tube Removal	
	Setting up the TV automatically (AUTO SET UP)	7		(1) KV-32S12/32S16/32V16	18
	Changing the menu language	9		(2) KV-32TW67/32TW68	19
	Watching the TV	9	3. SAFETY RELATED ADJUSTMENTS		20
	Watching two programs at a time-PIP	10			
	Adjusting the picture (VIDEO)	10	4. DIAGRAMS		
	Adjusting screen brightness automatically		4-1. Block Diagrams (1)	26	
	(LUMISPONDER)	11	4-2. Block Diagrams (2)	31	
	Adjusting the sound (AUDIO)	11	4-3. Circuit Boards Location	35	
	Listening to surround sound (SURROUND)	12	4-4. Printed Wiring Board and Schamatic Diagrams	35	
	Selecting stereo or bilingual programs (MTS)	12	• D Board	39	
	Setting the speaker switch (SPEAKER)	12	• UA Board	44	
	Setting audio out (AUDIO OUT)	12	• M Board	51	
	Customizing the channel number buttons		• Z Board (KV-32V16 only)	56	
	(CH CAPTION/GUIDE)	13	• L Board (KV-32V16 only)	56	
	Setting video labels (VIDEO LABEL)	13	• P Board (KV-32S16/32TW67/32TW68/32V16)	58	
	Displaying Caption Vision (CAPTION VISION)	14	• A Board	65	
	Operating video equipment	14	• E Board	67	
	Operating a cable box	15	• H Board	69	
			• C Board	70	
2. DISASSEMBLY			4-5. Semiconductions	73	
	2-1-1. Rear Cover Removal (KV-32S12/32S16)	16	5. EXPLODED VIEWS		
	2-1-2. Rear Cover and Speaker Box Assy Removal		5-1. Chassis (KV-32S12/32S16)	75	
	(KV-32V16)	16	5-2. Picture Tube (KV-32S12/32S16)	76	
	2-1-3. Rear Plate Removal (KV-32TW67/32TW68)	16	5-3. Chassis (KV-32V16)	77	
	2-2-1. Chassis Assy Removal (KV-32S12/32S16/32V16) ..	16	5-4. Picture Tube (KV32V16)	78	
	2-2-2. Chassis Assy Removal (KV-32TW67/32TW68)	17	5-5. Chassis (KV-32TW67/32TW68)	79	
	2-3-1. Service Position (KV-32S12/32S16/32V16)	17	5-6. Control Panel (KV-32TW67/TW68)	80	
	2-3-2. Service Position (KV-32TW67/32TW68)	17	5-7. Picture Tube (KV-32TW67/TW68)	81	
	2-4. P Board Removal	17	6. ELECTRICAL PARTS LIST		82
	2-5. U Board Removal	18			
	2-6. Extension Cable	18			

The Instruction Manual of KV-32V16.

SECTION1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

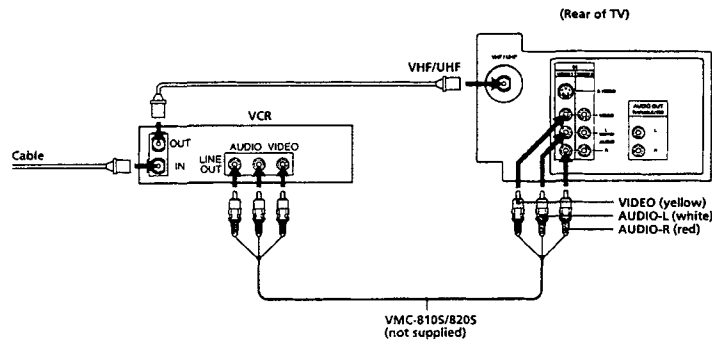
Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

After making these connections, you will be able to do the following:

- View the playback of video tapes
- Record one TV program while viewing another program
- Watch two TV programs at once using a window picture (picture-in-picture)

Without a cable box

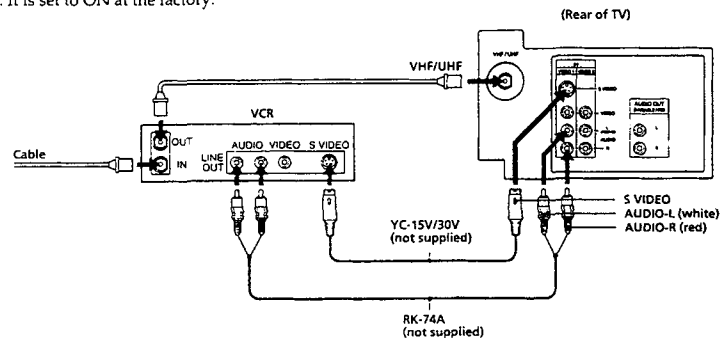


Note

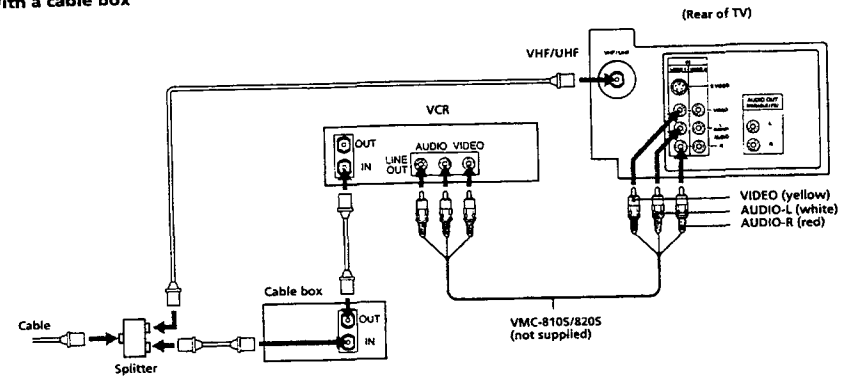
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR without a cable box

If your VCR has an S video output jack, hook up as follows and then set S VIDEO to ON on your TV (page 12). It is set to ON at the factory.



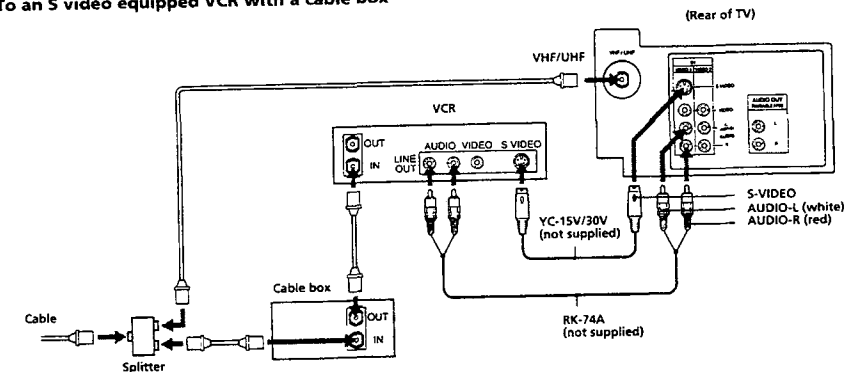
With a cable box



Note

- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box

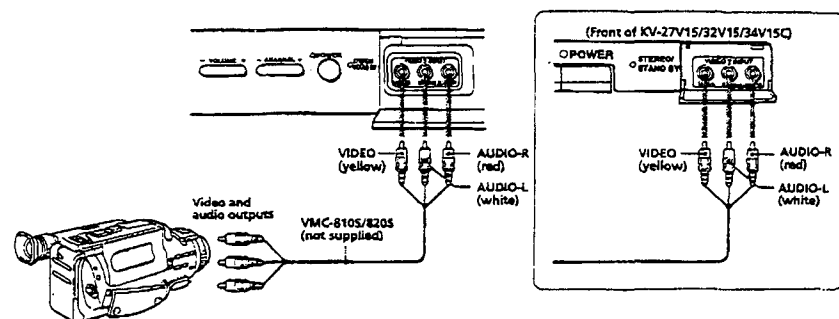


Note

- Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connection.

Connecting a camcorder

This connection is convenient for viewing a camcorder.

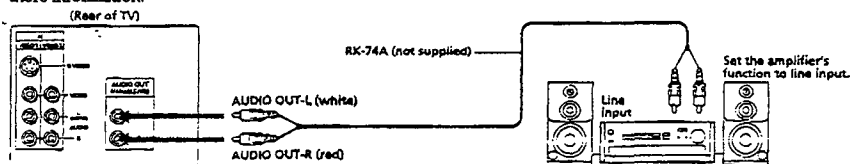


Note

- To connect a monaural camcorder, connect the audio output or the VCR to AUDIO-L (mono) or VIDEO 2 INPUT on the TV.

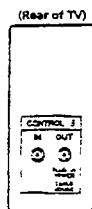
Connecting an audio system

When connecting audio equipment, see page 20 for more information.



Connecting other Sony equipment with CONTROL S jack

Connect the supplied cable box controller (Cable Mouse) to the CONTROL S OUT jack. Refer to the Cable Mouse's manual for details on the connection.



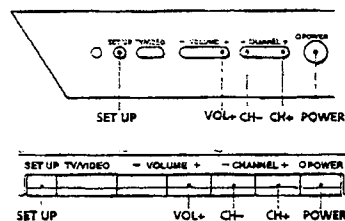
Make the following connections to control the TV and connected equipment with one remote commander.

- To control other Sony equipment with the TV's remote commander, connect the input of the equipment to CONTROL S OUT jack on the TV.
- To control the TV with the remote commander of other Sony equipment, connect the output of the equipment to CONTROL S IN jack on the TV.

Step 3: Setting up the TV automatically (AUTO SET UP)

For Cable Box control (Cable Mouse) users, you can set up your TV easily by using the AUTO SET UP feature. It presets all the receivable channels. To set up the TV manually, see "Setting cable TV on or off" (page 12) and "Presetting channels" (page 12). If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV/VIDEO or TV so that a channel number appears.

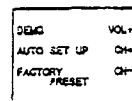
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- Press POWER to turn the TV on.



- Press SET UP on the front of the TV. The menu appears.



- Press CH+.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CATV is set to ON automatically.

Notes

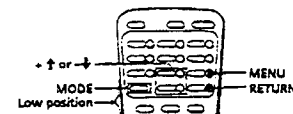
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.
- In case of using the AUX connector, press the TV button on the remote commander first and make sure that "AUX" is displayed beside the channel number on the screen. Then follow steps 2 and 3 above to perform AUTO SET UP. (KV-32V15 only)

DEMO: To browse the main functions, Press VOL+ in step 3. The functions and menus are displayed one by one.

FACTORY PRESET: To restore the factory settings when you are confused about the TV settings, Press CH- in step 3. The settings of picture and sound are restored to the factory setting.

Erasing or adding channels

After AUTO SET UP you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.



- Press MENU. The main menu appears.

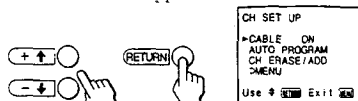


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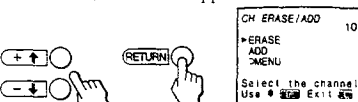
- 2 Press + or - to move the cursor (►) to SET UP and press RETURN.**
The SET UP menu appears.



- 3 Press + or - to move the cursor (►) to CH SET UP and press RETURN.**
The CH SET UP menu appears.

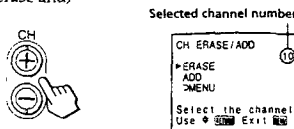


- 4 Press + or - to move the cursor (►) to CH ERASE/ADD and press RETURN.**
The CH ERASE/ADD menu appears.



- 5 Erase and/or add the channel you want:**
To erase an unwanted channel

- (1) Make sure the cursor (►) is beside ERASE.
- (2) Press CH +/- to select the channel you want to erase and,

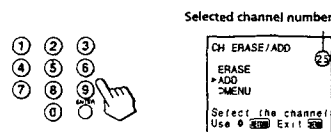


- (3) press RETURN.
- The indication “-” appears beside the channel number, showing that the channel is erased from the preset memory.



To add a channel that you want

- (1) Press + or - to move the cursor (►) to ADD.
- (2) Press the 0-9 buttons to select the channel you want to add and press ENTER and,



- (3) press RETURN.
- The indication “+” appears beside the channel number, showing that the channel is added to the preset memory.



- 6 To erase and/or add other channels, repeat step 5.**

- 7 When you finish, press MENU.**



Notes

- If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.
- Erasing and adding channels are also available for the AUX input. (KV-32V15 only)

Setting cable TV on or off

For cable box control (Cable Mouse) users

Refer to the supplied Cable Mouse manual on how to set cable TV.

If you have connected the TV to a cable TV system, set CABLE to ON, the factory setting. If not, set CABLE to OFF.

You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.**

- 2 Press + or - to move the cursor (►) to SET UP and press RETURN.**

- 3 Press + or - to move the cursor (►) to CH SET UP and press RETURN.**



- 4 Set CABLE to ON or OFF:**

- (1) Make sure the cursor (►) is beside CABLE and press RETURN.
If the cursor is not beside CABLE, press + or - to move the cursor and press RETURN.
- (2) Press + or - to select ON or OFF and, press RETURN.



- 5 Press MENU to return to the original screen.**

Notes

- If CH SET UP appears in black, the TV is set to a video input and you cannot select CABLE. Press TV/VIDEO or TV so that a channel number appears.

Presetting channels

For cable box control (Cable Mouse) users

Refer to the supplied Cable Mouse manual on how to preset channels.

You can preset TV channels easily by using the AUTO PROGRAM feature.

You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.**

- 2 Press + or - to move the cursor (►) to SET UP and press RETURN.**

- 3 Press + or - to move the cursor (►) to CH SET UP and press RETURN.**



- 4 Press + or - to move the cursor (►) to AUTO PROGRAM and press RETURN.**



“AUTO PROGRAM” appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, “AUTO PROGRAM” disappears and the lowest numbered channel is displayed.

- 5 Press MENU to return to the original screen.**

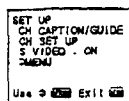
Notes

- If the CH SET UP menu appears in black, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV/VIDEO or TV so that a channel number appears.
- Presetting channels is also available for the AUX input. (KV-32V15 only)

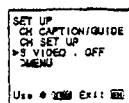
Setting S video on or off

You can change the S VIDEO menu to ON or OFF.

- 1 Press TV/VIDEO to select VIDEO 1.
- 2 Press MENU.
- 3 Press + or - to move the cursor (►) to SET UP and press RETURN.
- 4 Press + or - to move the cursor (►) to S VIDEO and press RETURN.



- 5 Press + or - to select ON or OFF and press RETURN.



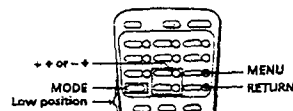
- 6 Press MENU to return to the original screen.

Notes

- If S VIDEO appears in black, set a video input to VIDEO 1.
- If you set S VIDEO to ON, the TV automatically receive S video signals whenever a VCR with S video is connected.

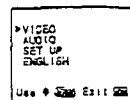
Changing the menu language

If you prefer Spanish to English, you can change the menu language.



- 1 Press MENU.

The main menu appears.



- 2 Press + or - to move the cursor (►) to ENGLISH and press RETURN.



- 3 Press + or - to select ESPAÑOL and press RETURN.

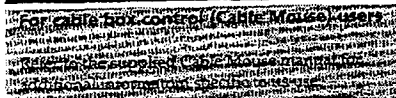


- 4 Press MENU to return to the original screen.

Note

- Certain parts of the ESPAÑOL menus remain in English.

Watching the TV



- 1 Press POWER (TV) to turn the TV on.



If "VIDEO" appears on the screen, press the TV/VIDEO or TV button so that a channel number appears.

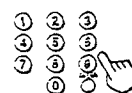
- 2 Select the channel you want:

To select a channel directly

Press the 0-9 buttons and then press ENTER.

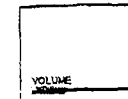
To scan through channels

Press CH +/- until the channel you want appears.



The channel can also be selected without pressing ENTER.

- 3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV.

14 Operations

Switching quickly between two channels

Press JUMP.

The channel you watched previously appears.



Pressing JUMP again switches back the channel.

Muting the sound

Press MUTING.

"MUTING" appears on the screen.



To restore the sound, press MUTING again, or press VOL +.

Displaying on-screen information

Use this feature to check the channel number, channel caption (if set), and MTS mode (if SAP is selected).

Press DISPLAY.



To cancel the display, press DISPLAY again.

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) you want appears.

Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.



To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Changing the VHF/UHF input to the AUX input

■ KV-32V15/34V15C only

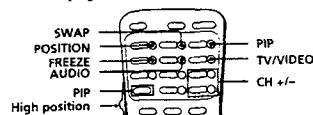
Press TV.



Pressing TV again switches back to the previous input.

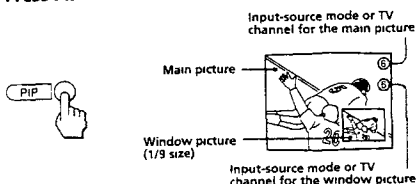
Watching two programs at a time — PIP

The Picture-in-Picture (PIP) feature allows you to watch both the main picture and a window picture simultaneously. You can watch two TV channels at a time with this feature. See "Connecting an antenna/cable TV system with a VCR" (page 6) for connections.

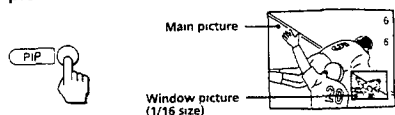


Displaying a window picture

Press PIP



Press PIP again to display a smaller window picture.



To remove the window picture, press PIP again.

Notes

- If the main picture is not receiving an image, the window picture may be in black and white.
- The window picture may be affected by the condition of the main picture.
- The window picture sound is also output from the VARIABLE/FIX AUDIO OUT jacks when you listen to

Changing the window picture input mode

Press TV/VIDEO in the PIP control area to select the input mode.

Each time you press TV/VIDEO, "TV", "VIDEO 1", "VIDEO 2" and "VIDEO 3 (except for KV-27S15/29RS15)" appear in sequence.



A window picture will appear in the same input mode as the last time you used PIP

Listening to the sound of the window picture

Press AUDIO.

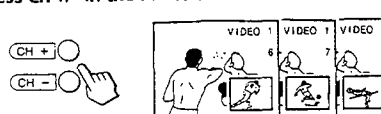
The display appears for a few seconds, indicating that the window picture sound is being received.



To restore the main picture sound, press AUDIO again.

Changing TV channels in the window picture

Press CH +/- in the PIP control area.



Changing the position of the window picture

Press POSITION.

Each time you press POSITION, the window picture will move counterclockwise on the screen.



Freezing the window picture

This feature is useful when you want to write down a recipe from a cooking program, a displayed address or a phone number and so on.

Press FREEZE.

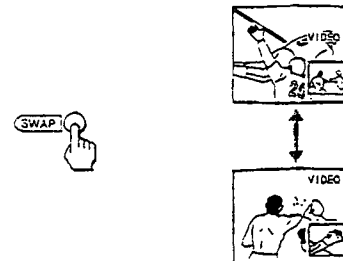


To restore the normal screen, press FREEZE again.

Swapping the main and window pictures

Press SWAP.

Each time you press SWAP, the images from the main and window pictures switch places along with the sound.



Note

- The channels being received through the AUX jacks cannot be displayed as a window picture (KV-32V15/34V15C only).

Adjusting the picture (VIDEO)

When watching TV programs, you can adjust the quality of the picture to suit your taste. You can adjust the picture of video input(s) as well. These settings are stored separately from those for the TV picture.



1 Press MENU.

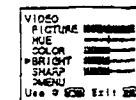
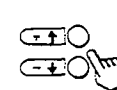
2 Make sure the cursor (➤) is beside VIDEO and press RETURN.



3 Select the item you want to adjust.

For example:

(1) To adjust brightness, press + or - to select BRIGHT and,

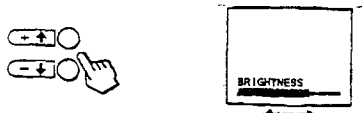


(2) press RETURN.



4 Adjust the selected item:

(1) Press + or - to adjust the item and,



(2) press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4.

Description of adjustable items

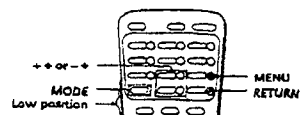
Item	Press + to	Press - to
PICTURE	Increase picture contrast and give vivid color	Decrease picture contrast and give soft color
HUE	Make skin tones become greenish	Make skin tones become purplish
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
SHARP	Sharpen the picture	Soften the picture

To restore the factory settings

Press RESET while the VIDEO menu is displayed. All the settings except for PICTURE are restored to the factory settings.

Adjusting screen brightness automatically (LUMISPONDER)

The LUMISPONDER feature adjusts the brightness of the screen automatically according to the ambient brightness. The LUMISPONDER function automatically adjusts the level set by the user in the VIDEO menu to the standard.



1 Press MENU.

2 Press + or - to select VIDEO and press RETURN.

3 Press + or - to select LUMISPONDER and press RETURN.



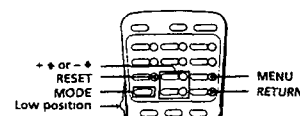
4 Press + or - to select ON or OFF and press RETURN.



Adjusting the sound (AUDIO)

You can adjust the quality of the TV sound to suit your taste.

You can adjust the sound of video input(s) as well. These settings are stored separately from those for the TV sound.



1 Press MENU.

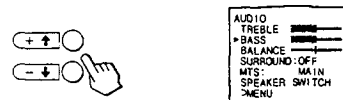
2 Press + or - to select AUDIO and press RETURN.



3 Select the item you want to adjust.

For example:

(1) To adjust bass, press + or - to select BASS and,



(2) press RETURN.



4 Adjust the selected item:

(1) Press + or - to adjust the item and,



(2) press RETURN.

The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4 above.

Description of adjustable items

Item	Press + to	Press - to
TREBLE	Increase the treble response	Decrease the treble response
BASS	Increase the bass response	Decrease the bass response
BALANCE	Emphasize the right speaker's volume	Emphasize the left speaker's volume

To restore the factory settings

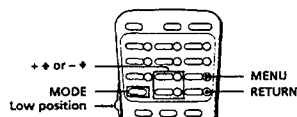
Press RESET while the AUDIO menu is displayed.

Note

- When SPEAKER (page 20) is OFF and AUDIO OUT (page 20) is FIXED condition, the sound is set to mid-level and it cannot be adjusted.

Listening to surround sound (SURROUND)

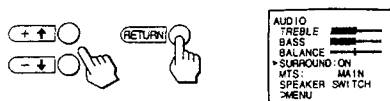
SURROUND feature simulates sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select SURROUND and press RETURN.

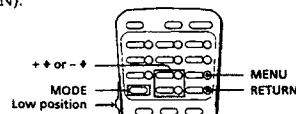


- 4 Press + + or - - to select ON and press RETURN.



Selecting stereo or bilingual programs (MTS)

The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) at your choice. The initial setting is stereo sound (MAIN).



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select MTS and press RETURN.



- 4 Press + + or - - to select MAIN, SAP, or MONO and press RETURN.



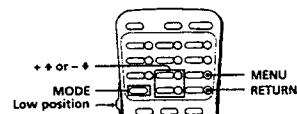
Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

Note

- Stereo and SAP sounds are subject to program sources.

Setting the speaker switch (SPEAKER)

You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select SPEAKER SWITCH and press RETURN.



- 4 Make sure the cursor (►) is beside SPEAKER and press RETURN.

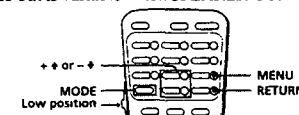


- 5 Press + + or - - to select ON or OFF and press RETURN.

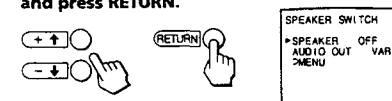


Setting audio out (AUDIO OUT)

You can select audio out to variable or fixed when SPEAKER is set to OFF. Audio out is variable when SPEAKER is set to ON.



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select SPEAKER SWITCH and press RETURN.



- 4 Press + + or - - to select AUDIO OUT and press RETURN.



- 5 Press + + or - - to select VAR or FIXED and press RETURN.



VAR: Sound output varied according to the TV settings. You can adjust the volume, bass, treble and balance.

FIXED: Sound output is always fixed to a certain level. The volume, bass, treble and balance are also fixed to the factory settings.

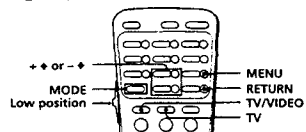
Customizing the channel number buttons (CH CAPTION/GUIDE)

For cable box control (Cable Mouse) users

Make the setting of Cable Mouse before customizing the channel number buttons.

You can choose up to 12 channels, caption each channel, and assign a specific channel number button to each channel. This feature allows you to select your favorite channels easily by name. For example, you can name channel 20 "ESPN," and assign the channel number 4 button to it.

Setting captions to favorite channels

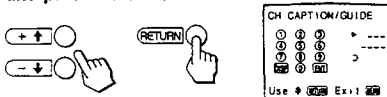


1 Press TV/VIDEO or TV to select TV mode.

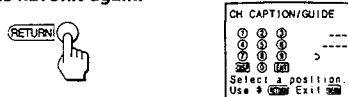
2 Press MENU.

3 Press + or - to select SET UP and press RETURN.

4 Press + or - to select CH CAPTION/GUIDE and press RETURN.



5 Press RETURN again.



6 Press + or - to select a channel guide number button and press RETURN. Numbers 0-9 and DISPLAY and ENTER are available for use as a customized channel number. Each time you press + or -, the channel positions change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.



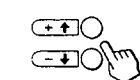
7 Press + or - to select the channel that you want to caption and press RETURN.



8 Enter the letters (up to four) to caption the channel:

(1) Press + or - to select the first letter. Each time you press + or -, the letter changes as shown below and,

0 → 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → A → B → C → D → E → F → G → H → I → J → K → L → M → N → O → P → Q → R → S → T → U → V → W → X → Y → Z → (blank space)



(2) press RETURN.



(3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



(continued)

9 Repeat step 5 to 7 to caption other channels.

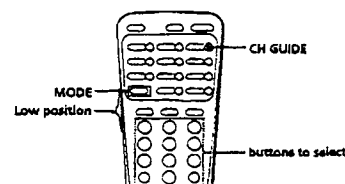
To erase a caption

Press RESET after step 5.

Notes

- The position number you already selected appears in yellow.
- If the CH CAPTION/GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/GUIDE.
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.
- The channel caption/guide feature is not available for the AUX input. (KV-32V15/34V15C only)

Selecting a captioned channel



1 Press CH GUIDE.

The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.

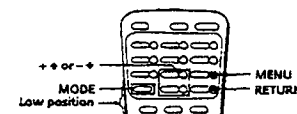


2 Press a channel number button, the DISP or ENT button to select the channel you want.

To cancel the CHANNEL GUIDE menu Press CH GUIDE again.

Setting video labels (VIDEO LABEL)

This feature allows you to label each input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS.



1 Press MENU.

2 Press + or - to select SET UP and press RETURN.

3 Press + or - to select VIDEO LABEL and press RETURN.



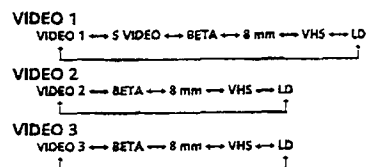
4 Press + or - to select the input mode you want to label and press RETURN.



- 5 Press + or - to select the label and press RETURN.



Each time you press + or -, the label changes as shown below.



- 6 Repeat steps 4 and 5 to label other input modes.

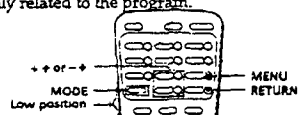
Note

- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

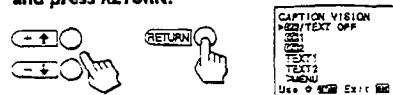
Displaying Caption Vision (CAPTION VISION)

Some source programs are provided with Caption Vision (Closed Caption). To display Caption Vision, select either CC1, CC2, TEXT1, or TEXT2 from the menu.

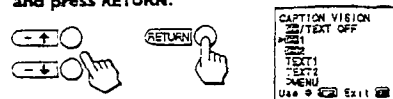
CC1 or CC2 shows you a caption, that is a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1 or TEXT2 shows you text, that is information presented using half to full of the screen. It is not usually related to the program.



- 1 Press MENU.
- 2 Press + or - to select CAPTION VISION and press RETURN.



- 3 Press + or - to select the caption type and press RETURN.



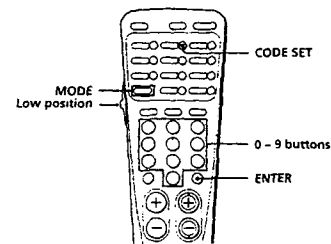
Note

- Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Caption Vision.

Operating video equipment

You can operate Sony or non-Sony video equipment that has an infrared remote sensor with the supplied remote commander. For this operation, set the manufacturer's code number.

Setting the manufacturer's code



While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see the chart in the right column). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



VCR Manufacturer Code numbers

Manufacturer	Code number
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

MDP manufacturer code numbers

Manufacturer	Code number
SONY	04
KENWOOD	58
MAGNAVOX	52
MARANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

Notes

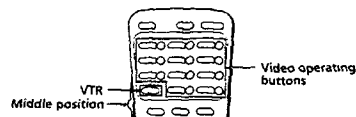
- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- In some rare cases, you may not be able to operate your non-Sony video equipment with this remote commander. This is because your equipment may use a code that is not provided with this remote commander. In this case, please use the equipment's own remote control unit.
- The code numbers for Sony equipment are assigned at the factory as follows:

Beta, ED Beta VCRs	01
8 mm VCR	02
VHS VCR	03 (preset code for this remote commander)

Caution

When you remove a battery from the remote commander, the code may revert to 03. Reset the code each time you replace the battery, if necessary.

Operating video equipment



Use the video operating buttons on the remote commander to operate the video equipment.

Operating a VCR	Buttons on the remote commander
To turn on or off	Press POWER
To change channels	Press CH +/-
To record	Press ● and REC simultaneously
To play	Press ►
To stop	Press ■
To fast forward	Press ►►
To rewind the tape	Press ◄◄
To pause	Press II
To search the picture forward and backward	Press ►► or ◄◄ during playback

Operating the laser-disc player	Buttons on the remote commander
To play	Press ►
To stop	Press ■
To pause	Press II
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback To resume normal playback, release the button.
To search the chapter	Press CH +/-

Note

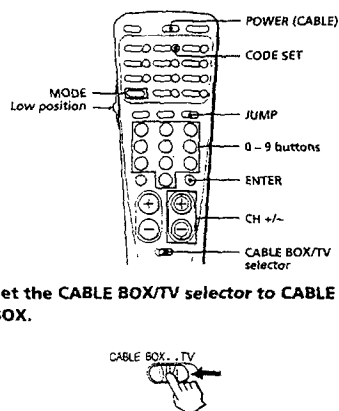
- If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating a cable box

For cable box control (Cable Mouse) users

Set the CABLE BOX/TV selector to TV and disregard the instruction below.

Follow these instructions to set the manufacturer's code which will enable you to operate a connected cable box with the pre-programmed remote commander. For example, you can set the remote commander to operate a connected Zenith cable box.



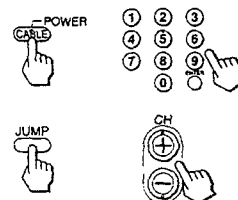
1 Set the CABLE BOX/TV selector to CABLE BOX.

2 While pressing CODE SET, press 6 and 8 (Zenith's code number—see chart on the next page) and ENTER.



(continued)

3 Use POWER(CABLE) and the TV control buttons (0 - 9, ENTER, JUMP and CH +/-) to operate the cable box.



To operate the TV

Set the CABLE BOX/TV selector to TV. Then use the TV control buttons to control the TV.

For more details on operating the cable box
Refer to the operating instructions that come with the cable box.

Manufactures and code numbers (cable box)

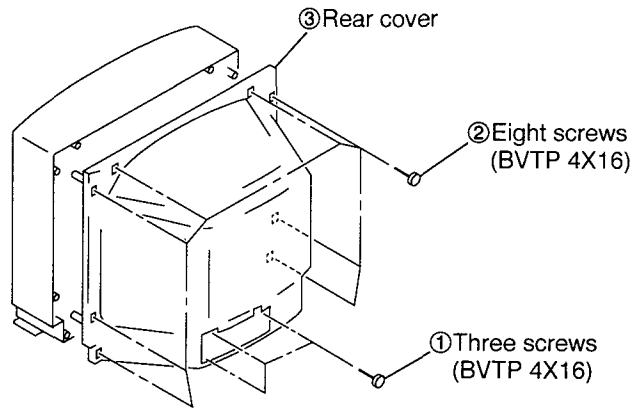
Manufacturer	Code number
JERROLD	60, 61, 62, 63, 64, 65, 73
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

Notes

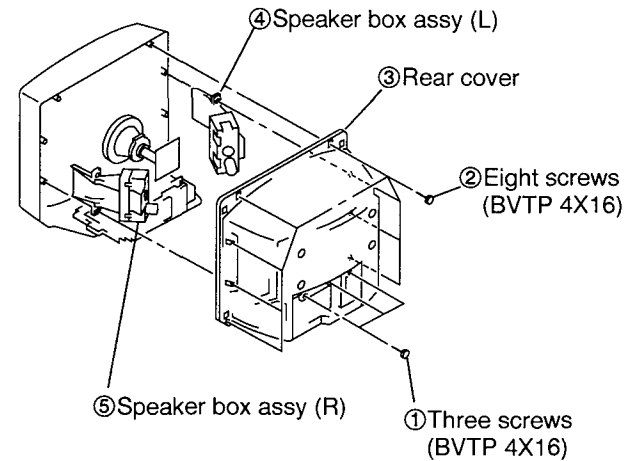
- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your cable box with the supplied remote commander. In this case, use the equipment's own remote control unit.
- When you remove a battery from the remote commander, the code may be erased. Reset the code each time you replace the battery, if necessary.

SECTION 2 DISASSEMBLY

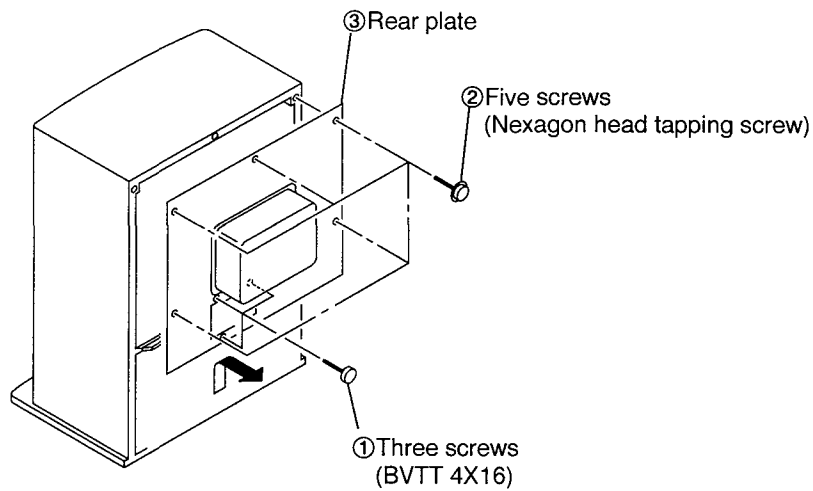
2-1-1. REAR COVER REMOVAL (KV-32S12/32S16)



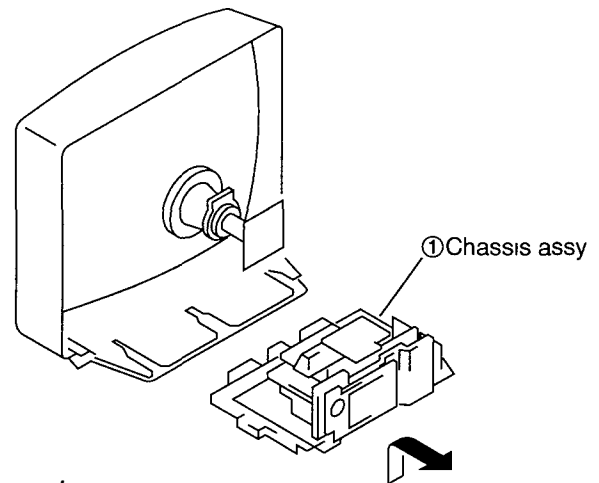
2-1-2. REAR COVER AND SPEAKER BOX ASSY REMOVAL (KV-32V16)



2-1-3. REAR PLATE REMOVAL (KV-32TW67/32TW68)

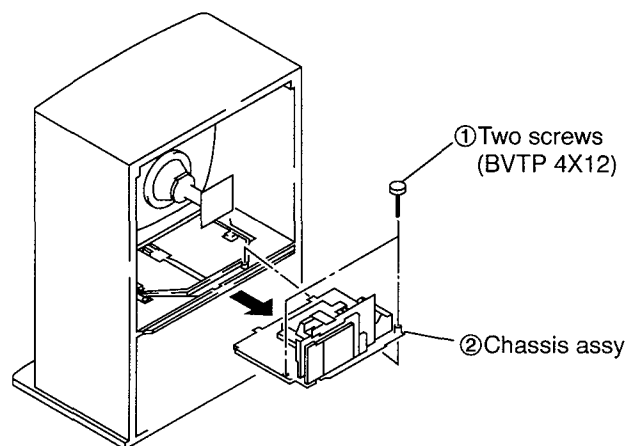


2-2-1. CHASSIS ASSY REMOVAL (KV-32S12/32S16/32V16)

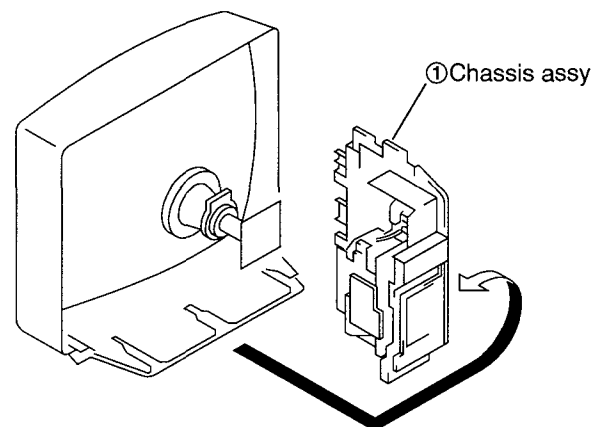


MC-Service

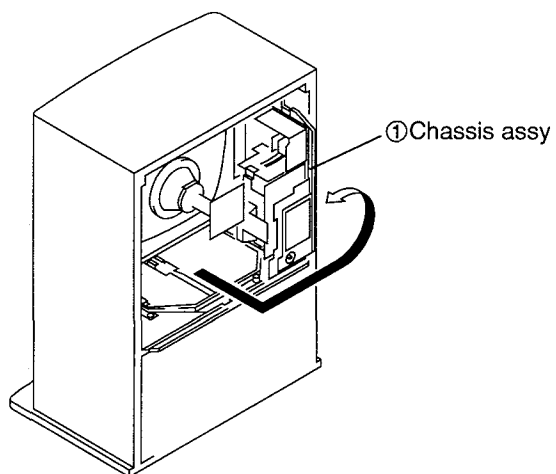
2-2-2. CHASSIS ASSY REMOVAL (KV-32TW67/32TW68)



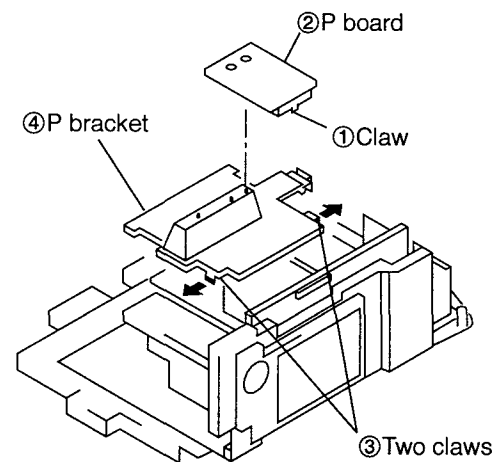
2-3-1. SERVICE POSITION (KV-32S12/32S16/32V16)



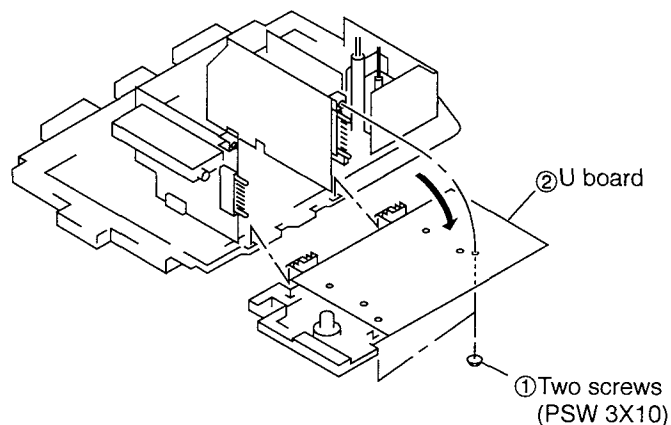
2-3-2. SERVICE POSITION (KV-32TW67/32TW68)



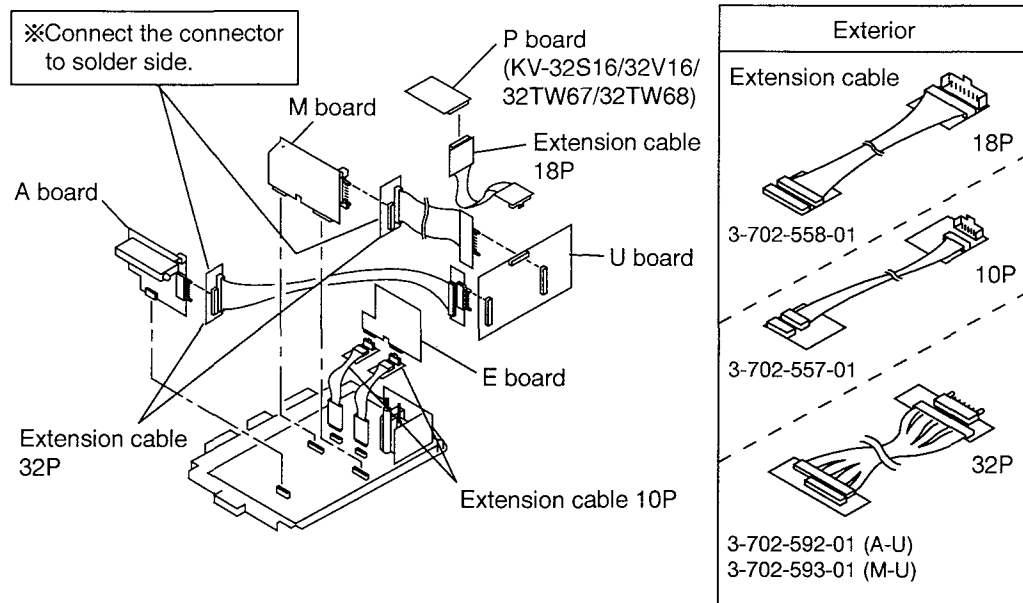
2-4. P BOARD REMOVAL (KV-32S16 U model/32V16/32TW67/32TW68)



2-5. U BOARD REMOVAL



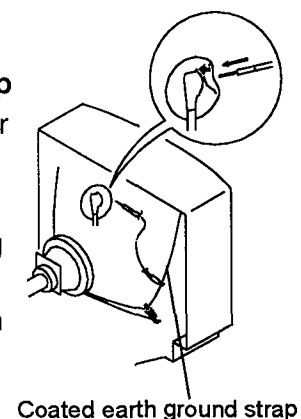
2-6. EXTENSION CABLE



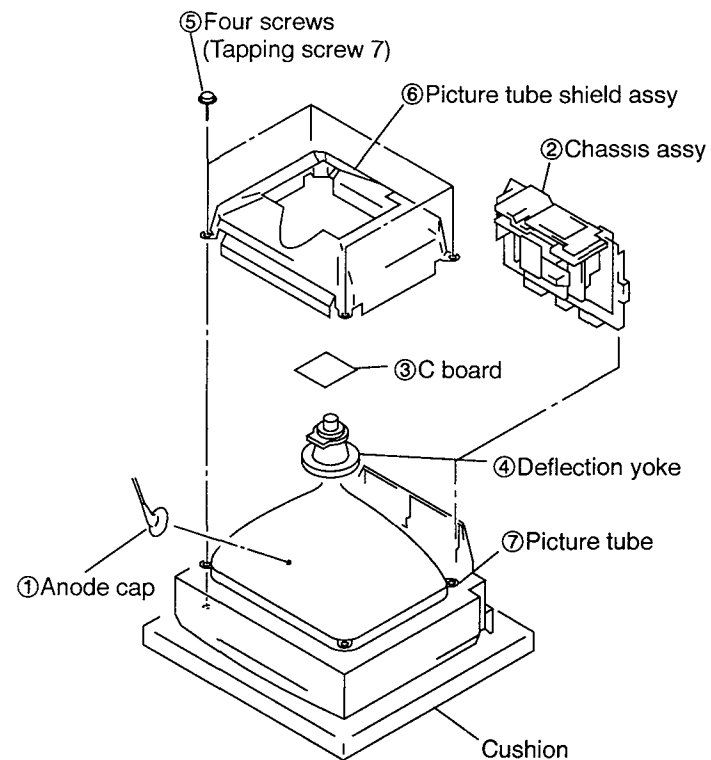
2-7. PICTURE TUBE REMOVAL

WARNING : Before removing anode cap H. V. remains in the CRT even after the power is disconnected.

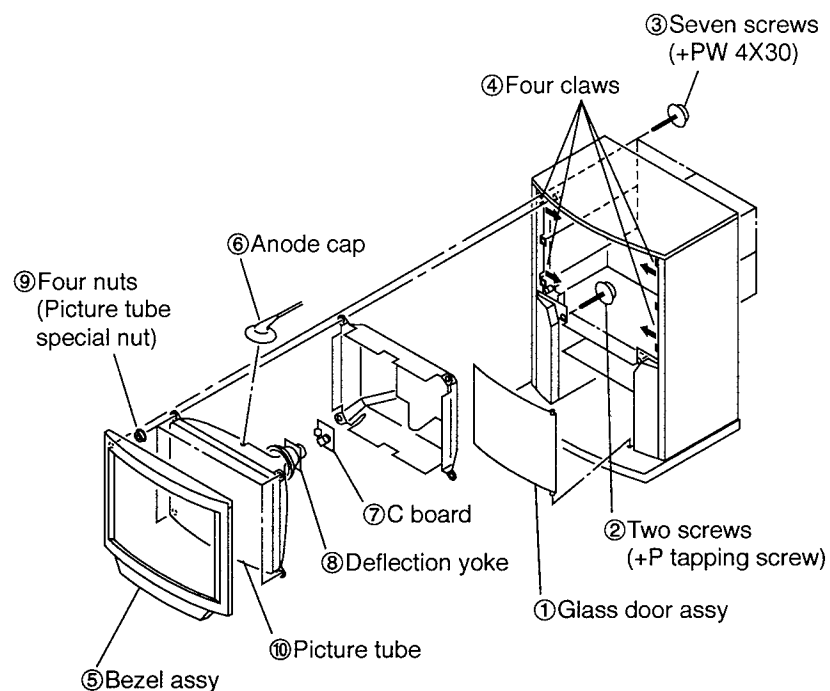
To avoid electrical shock, before attempting to remove the anode cap, discharge CRT : Short between anode and CRT coated earth ground strap.



(1) KV-32S12/32S16/32V16



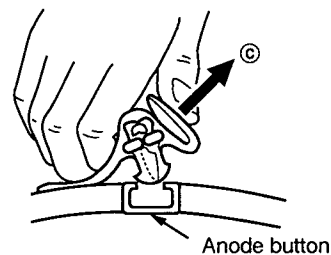
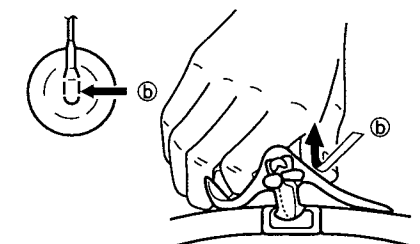
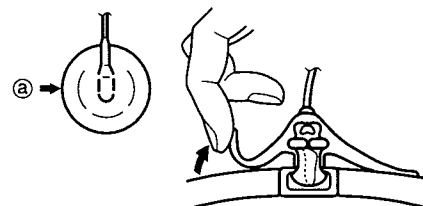
(2) KV-32TW67/32TW68



• REMOVAL OF ANODE-CAP

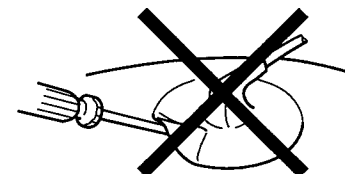
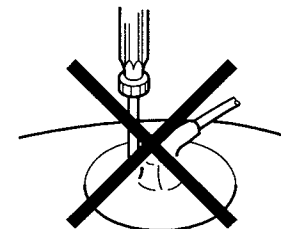
NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis. CRT chield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



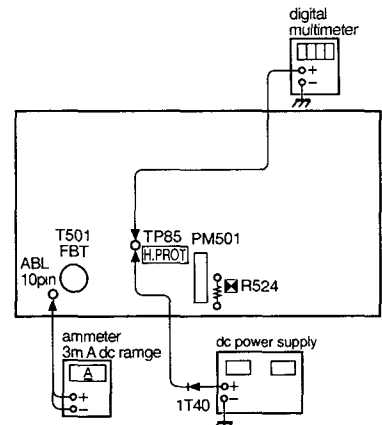
• HOW TO HANDLE AN ANODE-CAP




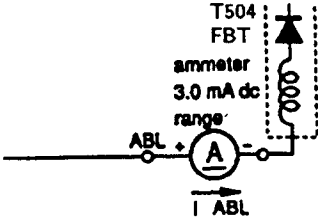
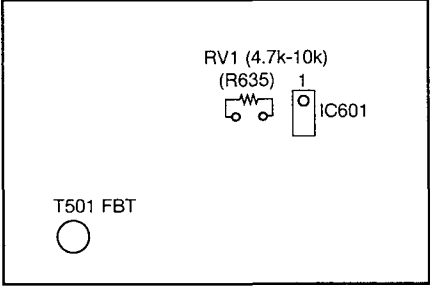



- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or hurt the rubber.

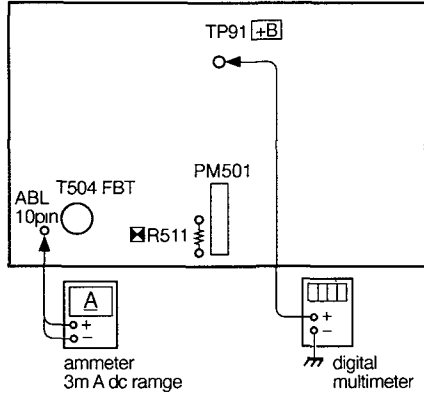


— 20 —

— 20 —

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<p>2. Hold-down operation confirmation (HV)</p> <p>1) Connect the *currentmeter between the *pin of *FBT and the land of it with connect polarity.</p> <p>2) Receive *Signal and adjust the *ABL current to follows with the PICTURE and the BRIGHTNESS controls.</p> <p>3) Connect the Digital Voltmeter and *DC power Supply via *DIODE to TP.</p> <p>4) Increase the DC power voltage gradually until the Picture just blanks out.</p> <p>5) Read the digital voltmeter indication.</p> <p>6) Turn DC power Source off immediately.</p> <p style="text-align: center;"><u>*STANDARD</u></p> <p>7) Receive *Signal and adjust the *ABL current to follows, with the PICTURE and the BRIGHTNESS controls.</p> <p>8) Repeat steps from (3) to (7).</p> <p style="text-align: center;"><u>*STANDARD</u></p>	<p>*Currentmeter</p> <p>*Entirely white</p> <p>*DC Power Supply</p> <p>*Dot Signal</p>	<p>*FBT (T501) Pin ⑩</p> <p>*Via 1T40 to TP-85</p>		<p>*1760 ± 50μA</p> <p>*Less than 143.5 VDC</p> <p>*160 ± 50μA</p> <p>*Less than 144.1 VDC</p> <div style="text-align: right;">  </div>

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<p>3. Hold -down readjustment</p> <p>When step 2 is not satisfied, readjustment should be performed by altering the resistance value of *Resistor (a component marked with ).</p>			<p>*  R524</p> <p>*  R511</p>	 <p>*R635 *RV1 : about 4.7 kΩ - 10kΩ * 120 \pm 2.0 VAC</p> 
<div><div> *RESISTOR CONFIRMATION METHOD (B+ HOLD-DOWN CONFIRMATION) AND READJUSTMENTS</div><p>The following adjustments should always be performed when replacing the following components (*marked with  on the schematic diagram).</p><p>1.Preparation before confirmation</p><ol style="list-style-type: none">1) Remove the *resistor on the D board and connect a *variable resistor between pin① of IC601 and B+ line.2) Supply *AC voltage to with *variable auto-transformer.</div>		<p>*  marked parts PM501, R338, R511, R632, R645, R650</p>		
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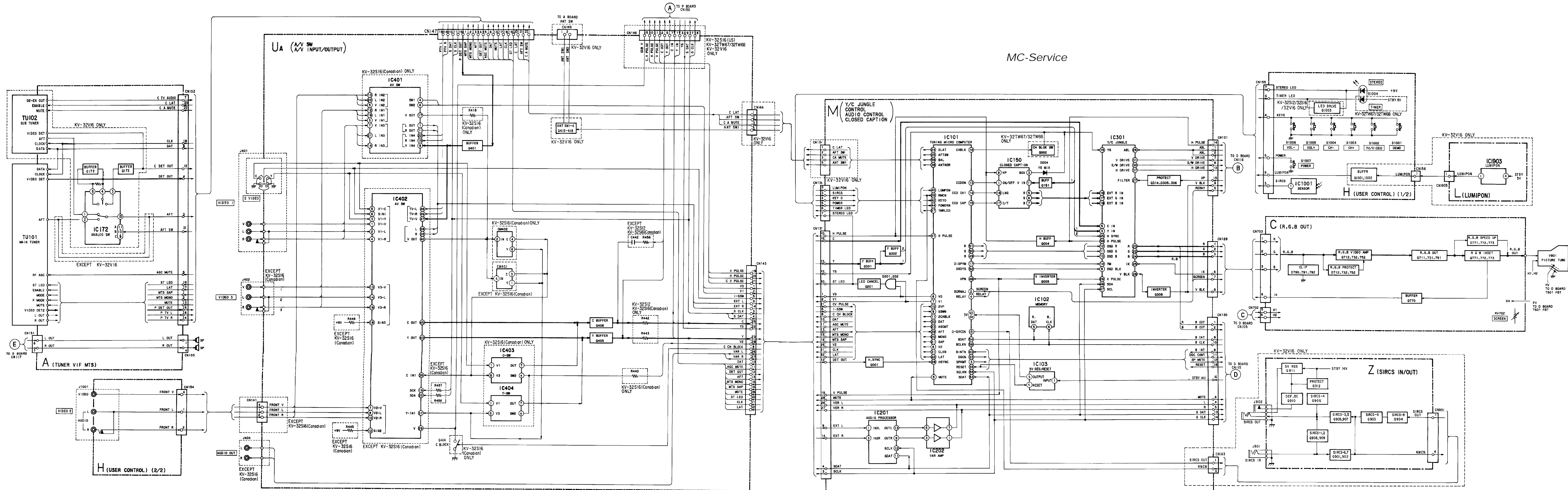
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
<p>2. Hold-down operation voltage (B+)</p> <p>1) Connect the *currentmeter between the *pin of FBT and the land of it with correct polarity.</p> <p>2) Receive *Signal and adjust the *ABL current to follows with the PICTURE and the BRIGHTNESS controls.</p> <p>3) Connect the *Digital Multimeter to *TP.</p> <p>4) Increase the DC power voltage gradually by adjusting the resistor of RV1 until the Picture just blanks out.</p> <p>5) Read the digital voltmeter indication.</p> <p>6) Turn DC power Source off immediately.</p> <p><u>*STANDARD</u></p> <p>7) Receive *Signal and adjust the *ABL current to follows, with the PICTURE and the BRIGHTNESS controls.</p> <p>8) Repeat steps from 4) to 6).</p> <p><u>*STANDARD</u></p>	<p>*Currentmeter</p> <p>*Entirely white</p> <p>*Digital Multimeter</p> <p>*Dot signal</p>	<p>*FBT (T501) Pin ⑩</p> <p>*TP91 (+B)</p>		<p>* $1760 \pm 50\mu\text{A}$</p> <p>*Less than 140.0 VDC</p> <p>* $160 \pm 50\mu\text{A}$</p> <p>*Less than 143.5 VDC</p> 
<p>3. Hold-down readjustment</p> <p>When step 1 is not satisfied, readjustment should be performed by altering the resistance value of *resistor (a component marked with \boxtimes) .</p>		<p>* \boxtimes R511</p>		

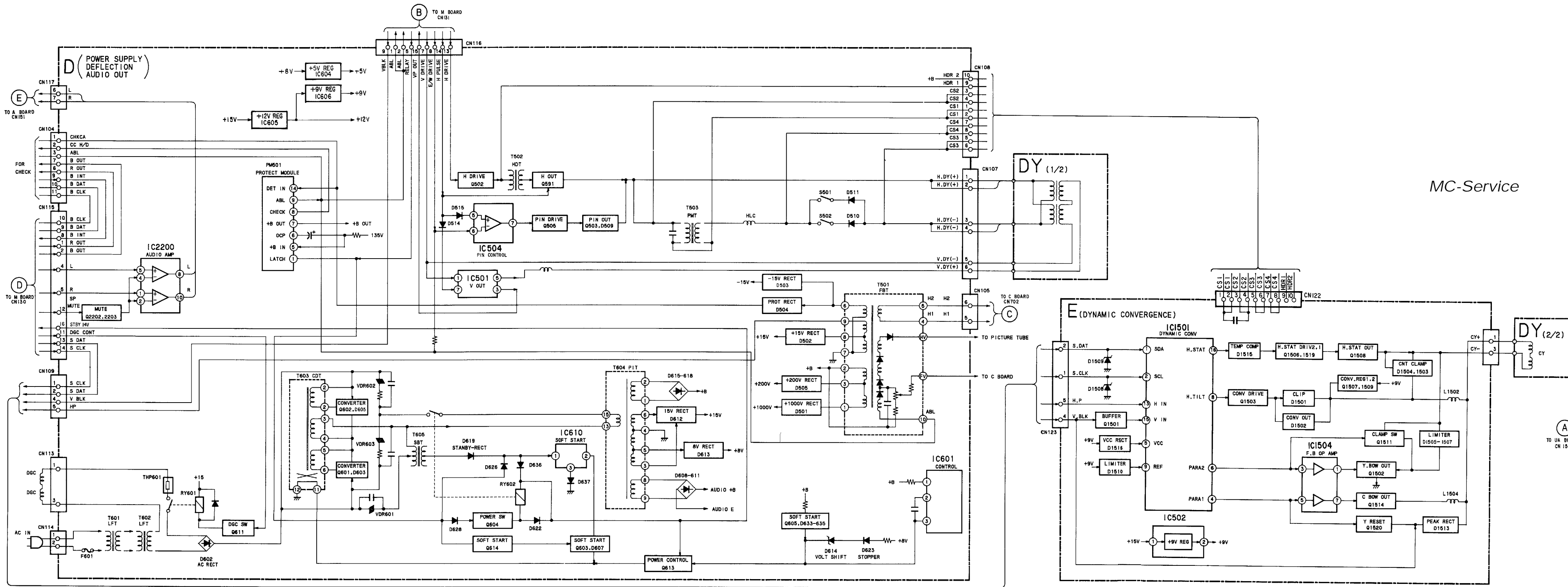
SECTION 4 DIAGRAMS

4-1. BLOCK DIAGRAMS (1)

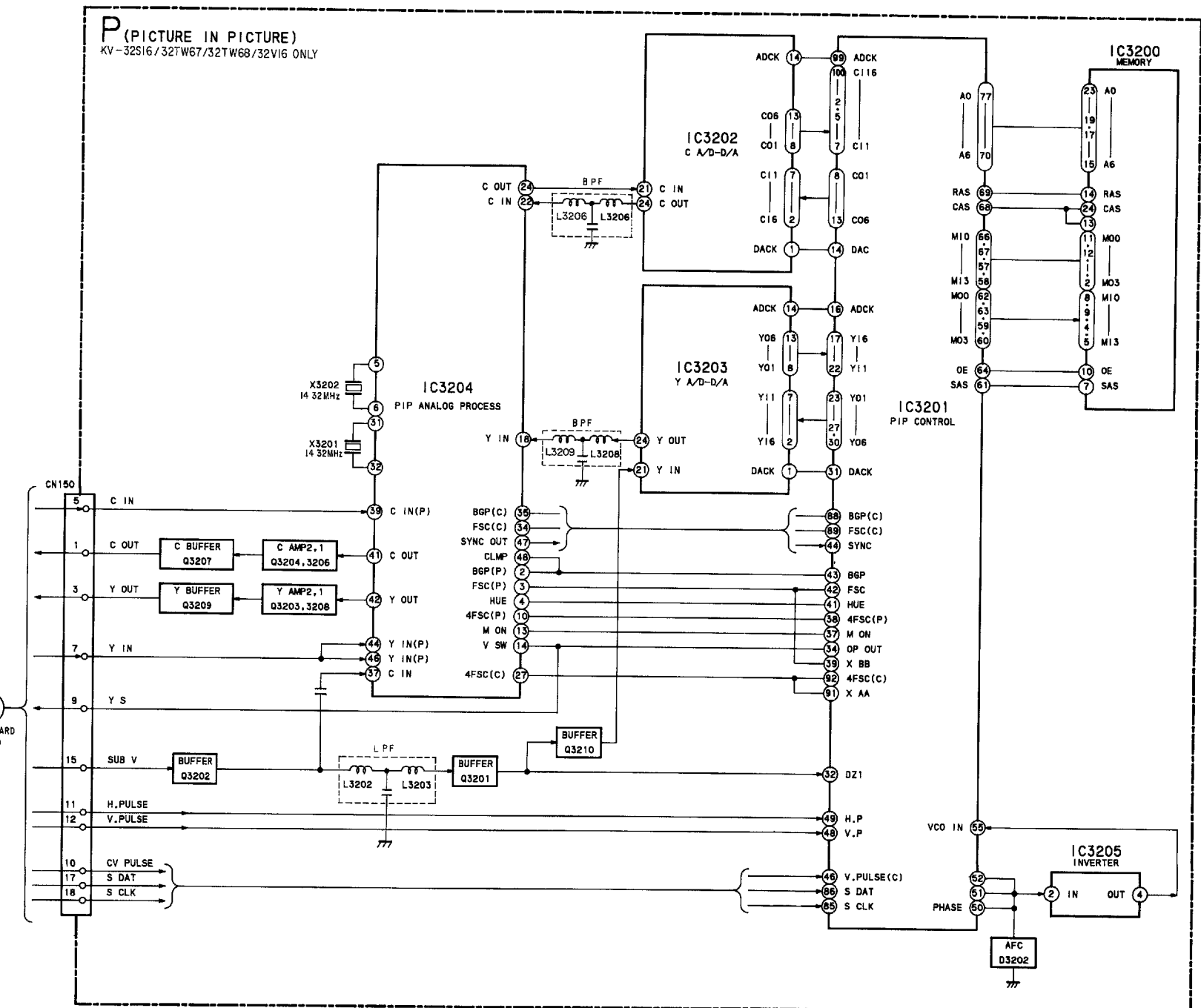
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MC-Service

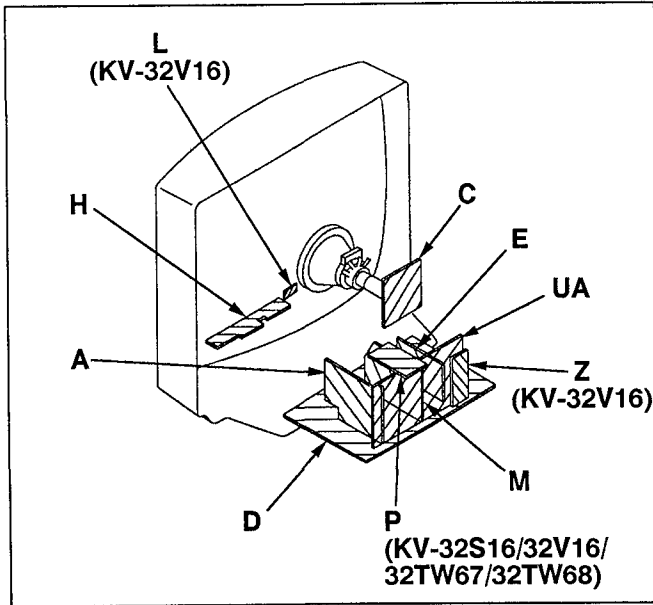




MC-Service



4-3. CIRCUIT BOARDS LOCATION



4-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note :

- All capacitors are in μF unless otherwise noted. pF : μF 50V or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
 $\text{k}\Omega = 1000 \Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : 1/4W

- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.
(Refer to R511 and R524 adjustment on Page 20, 25.)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced ()	Adjustment ()
PM501, R511, R632, R645, R650 R338 <div> } D BOARD } M BOARD </div>	HOLD-DOWN (R511)
IC601, PM501, D504, C598, R509, R524, R632, R635, R645, T501 R338 <div> } D BOARD } M BOARD </div>	HOLD-DOWN (R524)

- As to the voltage value shown by the semiconductors on the Schematic Diagram, see the another list.
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10M Ω digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- * : Measurement impossibility.
- : B + line
- : B - line
(Actual measured value may be different)
- : signal path.(RF)
- Circled numbers are waveform references.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The symbol display is on the component side.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

The symbol indicate fast operating fuse. Replace only with fuse of same rating as maked.

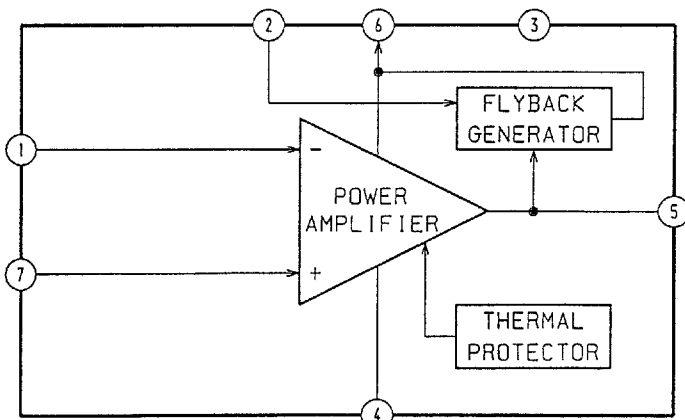
Note: Les composants identifiés per un tramé et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

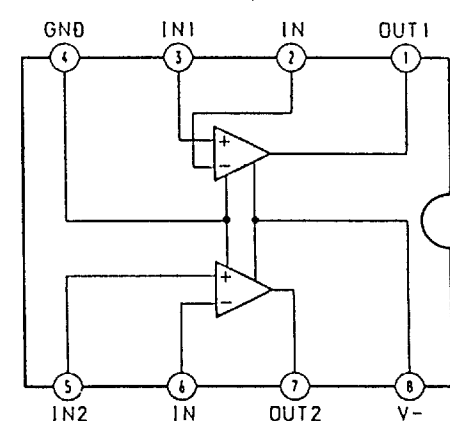
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- D BOARD -

D BOARD IC501 TDA8172

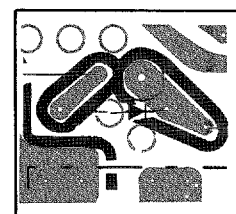


D BOARD IC504 μ PC393C

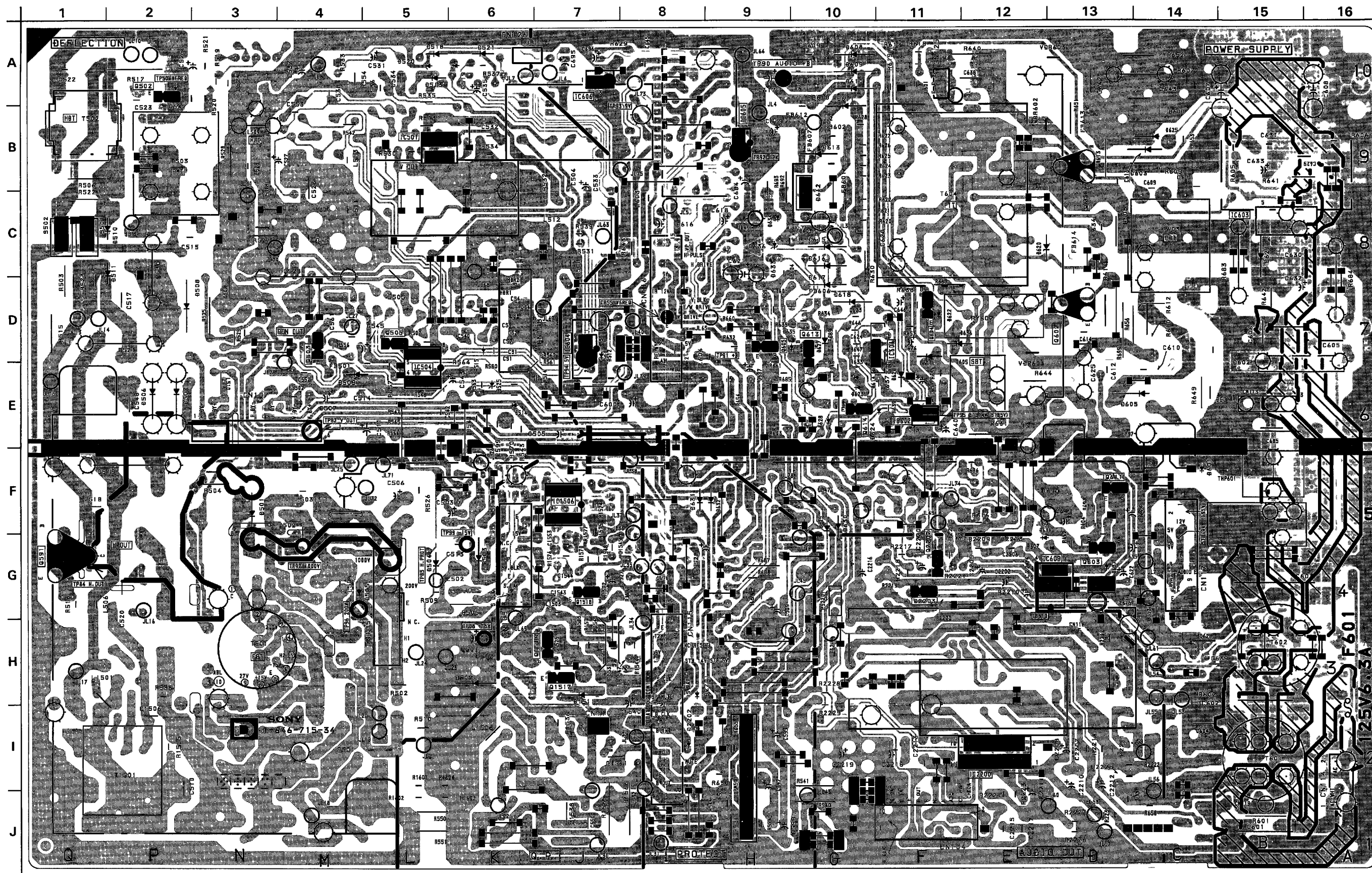


D BOARD

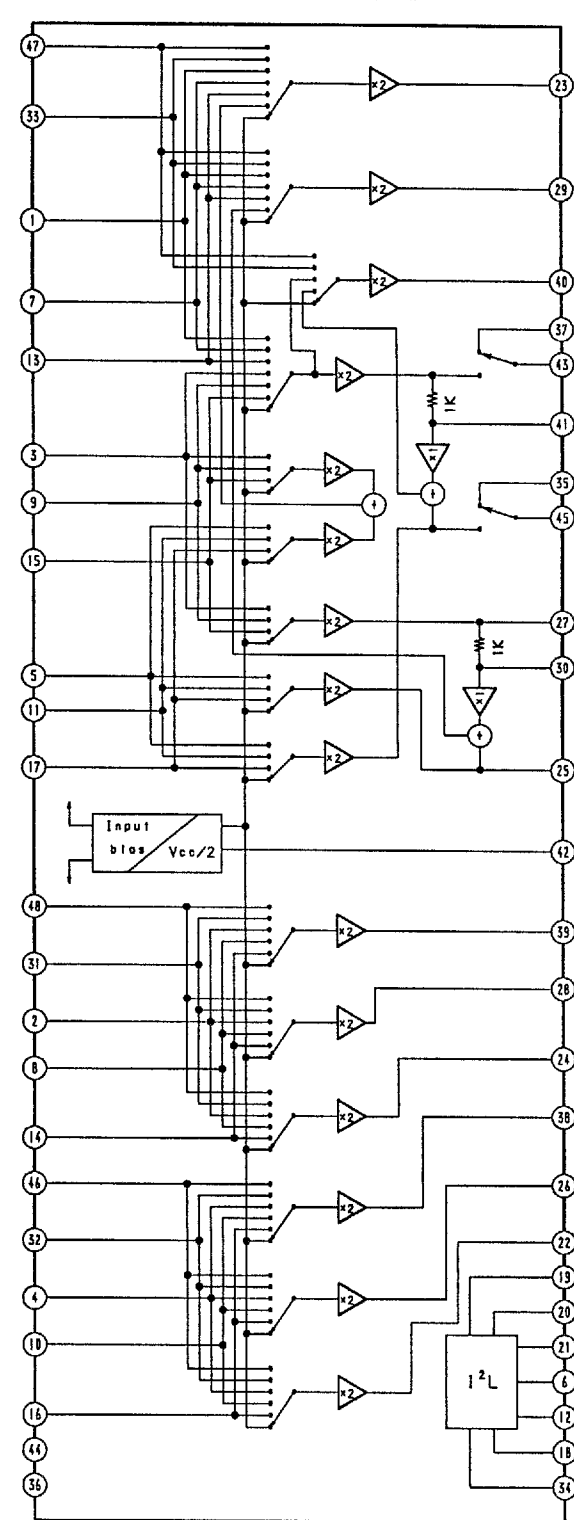
IC		D509		E - 4	
IC501	B - 5	D510	C - 1		
IC504	D - 5	D511	C - 1		
IC601	D - 10	D512	D - 7		
IC604	D - 7	D513	A - 5		
IC605	B - 9	D514	E - 6		
IC606	A - 7	D515	D - 6		
IC610	G - 12	D601	F - 14		
IC2200	I - 12	D602	D - 15		
TRANSISTOR		D603	B - 14		
		D605	E - 13		
		D607	G - 12		
		D608	A - 10		
		D609	A - 10		
		D610	A - 10		
		D611	A - 10		
		D612	B - 10		
		D613	B - 10		
		D614	E - 10		
		D615	C - 10		
		D616	C - 10		
		D617	C - 10		
		D618	D - 10		
		D619	D - 11		
		D622	D - 11		
		D623	E - 10		
		D624	E - 10		
		D626	E - 11		
		D627	D - 10		
		D628	E - 10		
		D633	C - 9		
		D634	C - 9		
		D635	D - 9		
		D636	D - 11		
		D637	G - 13		
		D638	F - 12		
DIODE		D501	F - 3		
		D502	H - 6		
		D503	G - 6		
		D604	G - 5		
		D505	G - 4		
		D506	E - 2		
		D507	E - 2		
		D508	D - 2		



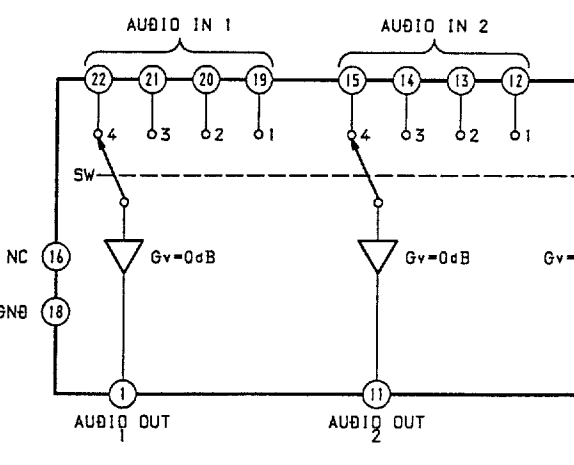
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



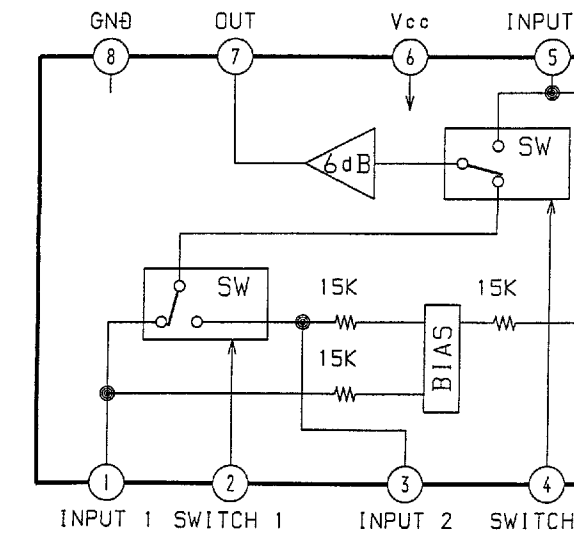
UA BOARD IC402 CXA1545AS



UA BOARD IC401 M52470AP



UA BOARD IC403 MM1114XFF



Schematic diagrams

UA BOARD * MARK

Ref No	Location	KV 32512	KV 32516 (US)	KV 32516 (ON)	KV 321W67 / 321W68	KV 32V16
C406	F-5	1	1	1	1	1
C407	F-6	1	1	1	1	1
C408	F-5	22/25V	22/25V	22/25V	22/25V	22/25V
C411	D-5	0.47	0.47	100/25V	0.47	0.47
C417	I-10	0.47	0.47	0.47	0.47	0.47
C418	I-10	0.47	0.47	0.47	0.47	0.47
C427	B-5	JW (5.0)	JW (5.0)	JW (5.0)	JW (5.0)	JW (5.0)
C430	F-8	—	—	—	—	—
C431	F-8	—	—	—	—	—
C432	G-7	—	—	—	22/25V	—
C433	F-8	32/25V	33/25V	—	33/25V	33/25V
C434	F-8	100P	100P	—	100P	100P
C440	F-9	—	100P	—	100P	100P
C442	C-5	JW (5.0)	JW (5.0)	—	JW (5.0)	JW (5.0)
C451	B-5	JW (5.0)	JW (5.0)	—	JW (5.0)	JW (5.0)
C452	E-8	100/18V	100/18V	—	100/18V	100/18V
C471	F-10	22/25V	22/25V	0.47	22/25V	22/25V
C481	D-10	0	0	0	0	0
C482	D-10	—	—	—	—	—
CN141	A-4	5P	5P	—	5P	5P
CN142	C-14	2P	2P	—	2P	2P
CN144	G-14	—	—	—	—	—
CN145	A-7	18P	18P	—	18P	18P
CN148	A-5	2P	2P	—	2P	2P
CN149	J-11	—	—	—	—	—
D401	E-5	RD10ESB	RD10ESB	MTZJ-T77-10B	MTZJ-T77-10B	MTZJ-T77-10B
D403	E-8	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D404	D-8	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D405	F-5	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D408	E-5	RD10ESB	RD10ESB	MTZJ-T77-10B	MTZJ-T77-10B	MTZJ-T77-10B
D409	E-5	RD10ESB	RD10ESB	MTZJ-T77-10B	—	MTZJ-T77-10B
D429	D-8	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D430	E-8	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D431	D-6	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D436	G-7	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
D437	G-7	RD10ESB	RD10ESB	—	MTZJ-T77-10B	MTZJ-T77-10B
IC401	D-7	—	MS2470AP	—	—	—
IC402	F-7	CXA1545AS	CXA1545AS	—	CXA1545AS	CXA1545AS
IC403	G-10	—	MM1114XFF	—	—	—
IC404	F-10	—	MM1118XFF	—	—	—
J402	F-2	3P	3P	—	3P	3P
J404	I-2	2P	2P	—	2P	2P
JR419	F-5	CONDUCTOR	CONDUCTOR	—	CONDUCTOR	CONDUCTOR
JR408	—	CONDUCTOR	CONDUCTOR	—	CONDUCTOR	CONDUCTOR
JR901	E-5	—	—	—	—	—
JW454	C-8	—	—	10K	—	—
JW456	C-7	—	—	10K	—	—
L401	F-8	18uH	18uH	—	18uH	18uH
L403	C-6	33uH	—	33uH	33uH	33uH
L404	B-7	33uH	—	33uH	33uH	33uH
L405	E-8	JW (5.0)	JW (5.0)	—	JW (5.0)	JW (5.0)
L452	H-11	—	—	—	JW (5.0)	JW (5.0)
L453	H-11	—	—	—	JW (5.0)	JW (5.0)

○ TO BE MOUNT
— NOT MOUNT

UA BOARD IC VOLTAGE LIST

IC401 ①	4.8	IC402 ①	4.7	②	—	IC403 ①	4.7
D-7 ②	12.0	F-8 ②	4.8	③	4.8	F-10 ②	0
③	4.7	④	4.7	④	—	④	—
④	4.3	⑤	4.8	⑤	4.8	⑤	5.1
⑤	4.7	⑥	4.7	⑥	4.7	⑥	4.8
⑥	5.0	⑦	5.2	⑦	—	⑦	0.0
⑦	4.7	⑧	4.7	⑧	4.8	⑧	4.6
⑧	0	⑨	4.8	⑨	4.8	⑨	0
⑨	4.7	⑩	—	⑩	4.7	⑩	—
⑩	0	⑪	4.8	⑪	4.8	⑪	—
⑪	4.8	⑫	8.4	⑫	0	⑫	—
⑫	4.8	⑬	4.7	⑬	4.8	⑬	5.1
⑬	4.8	⑭	4.8	⑭	—	⑭	4.8
⑭	4.8	⑮	4.8	⑮	4.7	⑮	4.6
⑮	0	⑯	4.8	⑯	4.7	⑯	0
⑯	4.7	⑰	—	⑰	4.7	⑰	—
⑰	0	⑱	8.4	⑱	4.8	⑱	—
⑱	4.8	⑲	5.1	⑲	4.4	⑲	4.4
⑲	4.8	⑳	—	㉑	9.0	㉑	—
㉑	4.8	㉒	—	㉒	4.6	㉒	—
㉒	4.8	㉓	—	㉓	4.8	㉓	—
㉓	4.8	㉔	—	㉔	4.7	㉔	—
㉔	4.8	㉕	—	㉕	4.8	㉕	—

— BLANK PIN

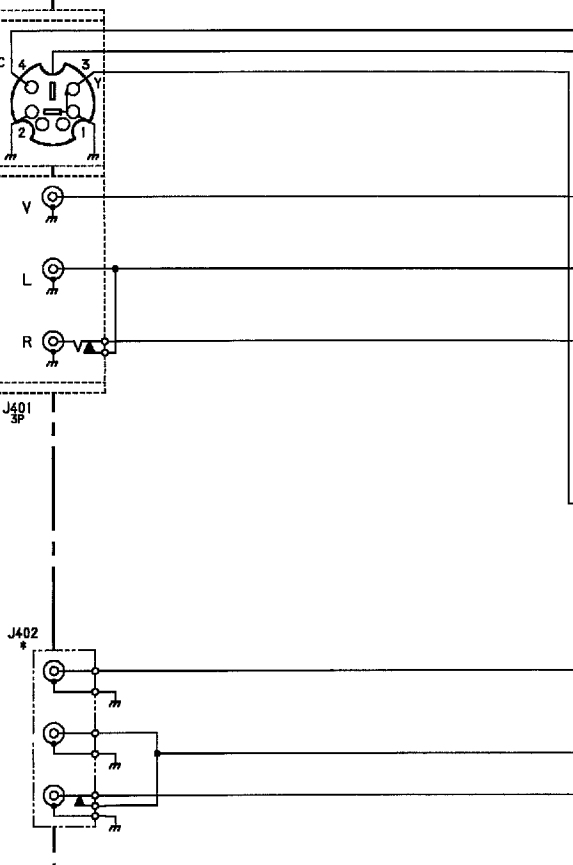
UA BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q401	H-8	4.8	9.0	4.2
Q405	D-11	2.4	0	3.1
Q406	D-11	4.6	0	5.3
Q410	G-6	5.8	9.0	5.1
Q414	G-10	0	4.7	0
Q415	H-10	0.8	0.1	0
Q416	H-10	4.5	4.7	5.0
Q417	H-10	4.3	5.1	5.0
Q418	H-11	5.1	0	5.0

All voltages are in V

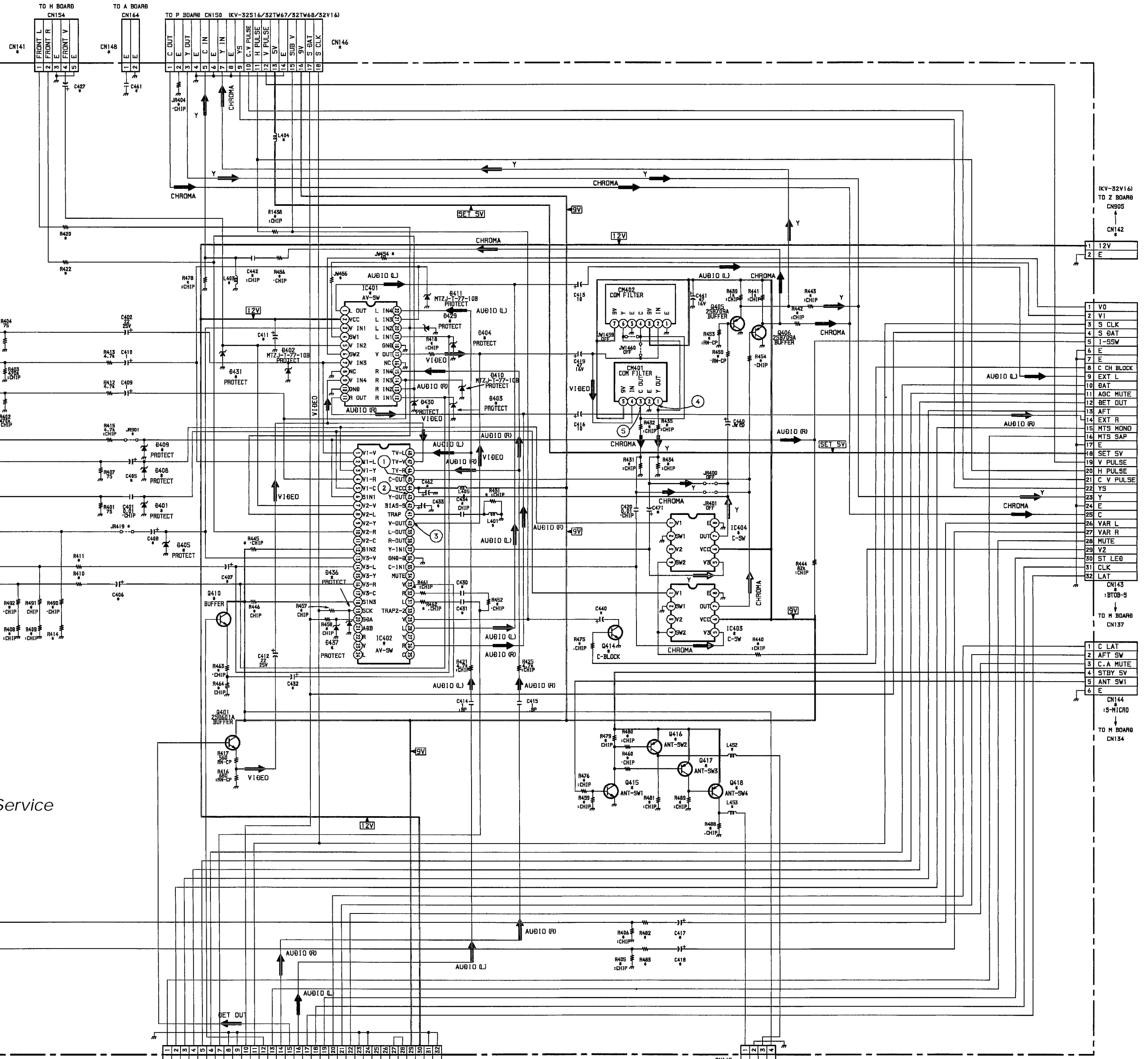
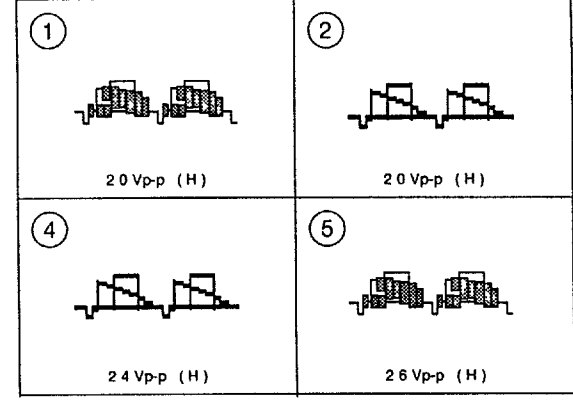
Schematic diagrams

UA
A/V SW
A/V INPUT
A/V OUTPUT



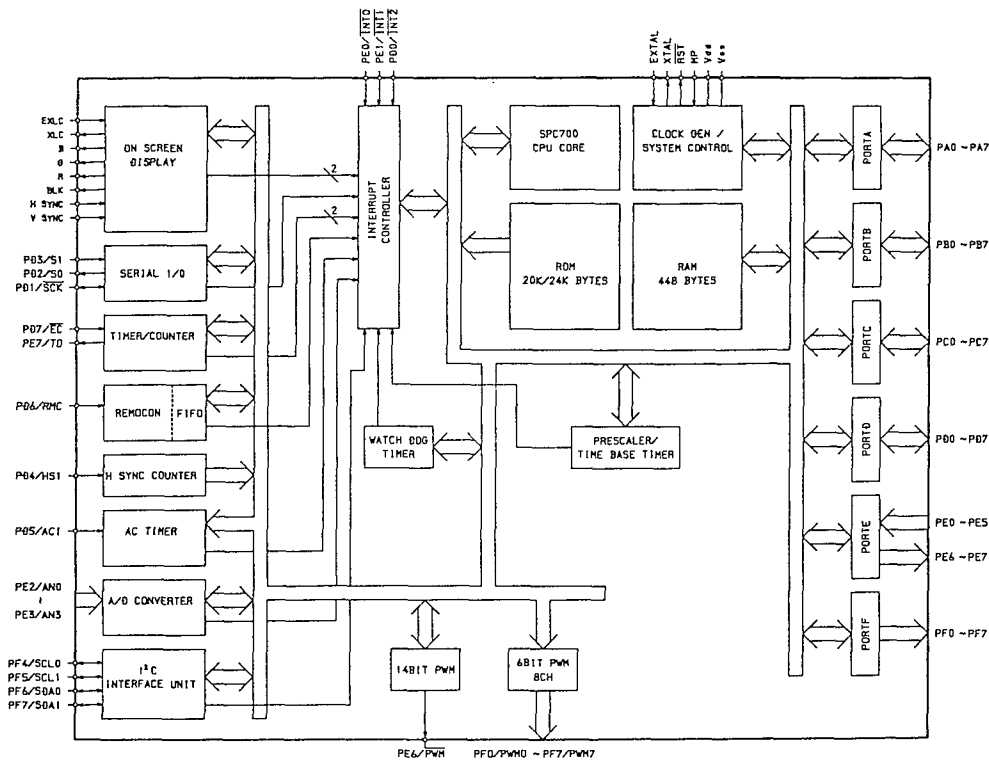
MC-Service

UA BOARD WAVEFORMS

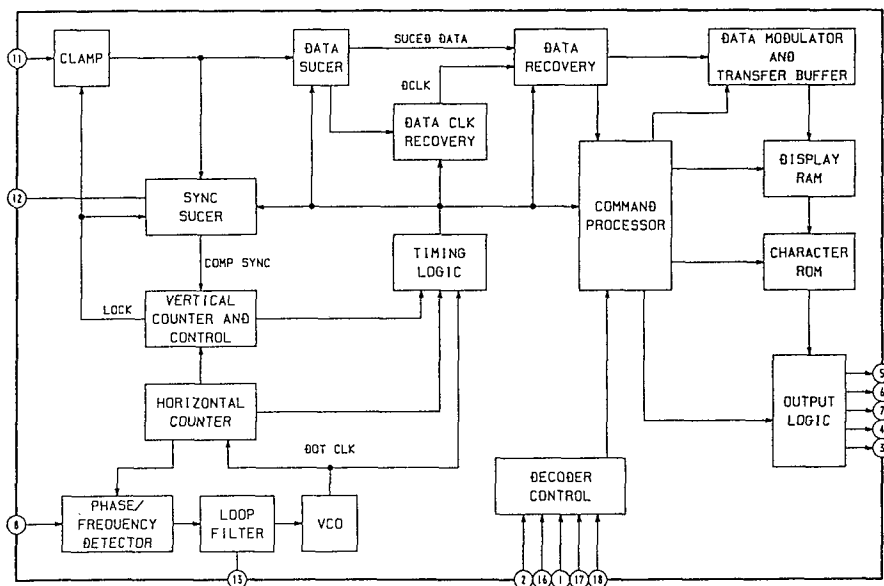


B-395430-01...-UA

M BOARD IC101 CXP80424



M BOARD IC150 Z8622812PSC



M BOARD

IC	
IC101	C-6, H-6
IC102	B-7, I-7
IC103	D-4, G-4
IC150	B-4, I-4
IC201	C-2, H-2
IC202	D-1
IC301	C-3, H-3

TRANSISTOR

Q001	E-6
Q002	G-5
Q004	H-7
Q005	H-7
Q151	G-5
Q201	J-1
Q301	A-2
Q302	A-2
Q308	E-4

DIODE

D001	F-6
D002	F-6
D004	E-4
D005	G-6
D006	C-7, I-7
D007	C-7, I-7
D008	C-7, I-7
D009	C-7, I-7
D150	H-5
D201	A-1
D202	A-1
D205	D-2
D206	B-2, I-2
D301	B-4, I-4
D304	B-4, I-4

Note :

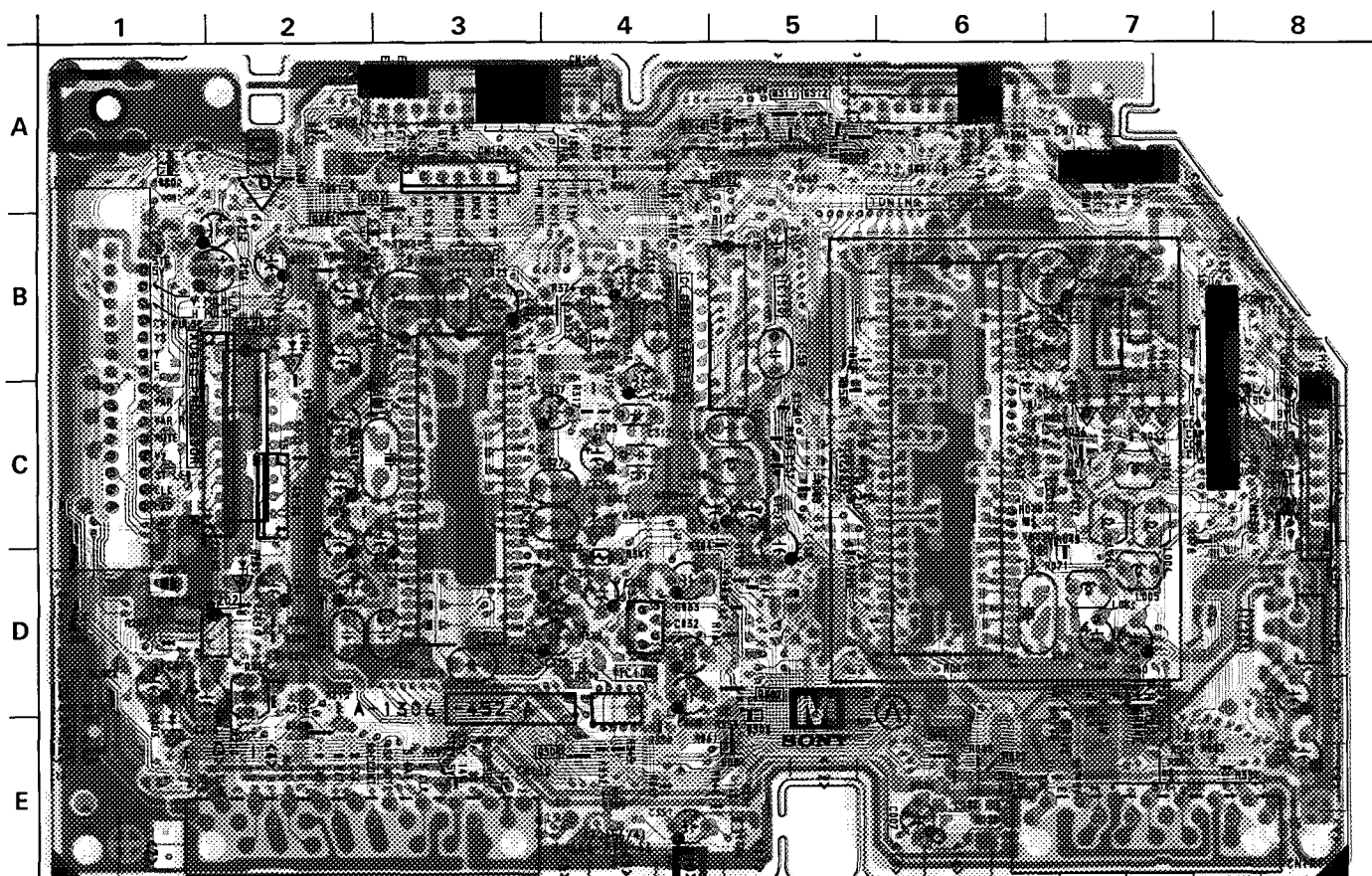
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

MC-Service

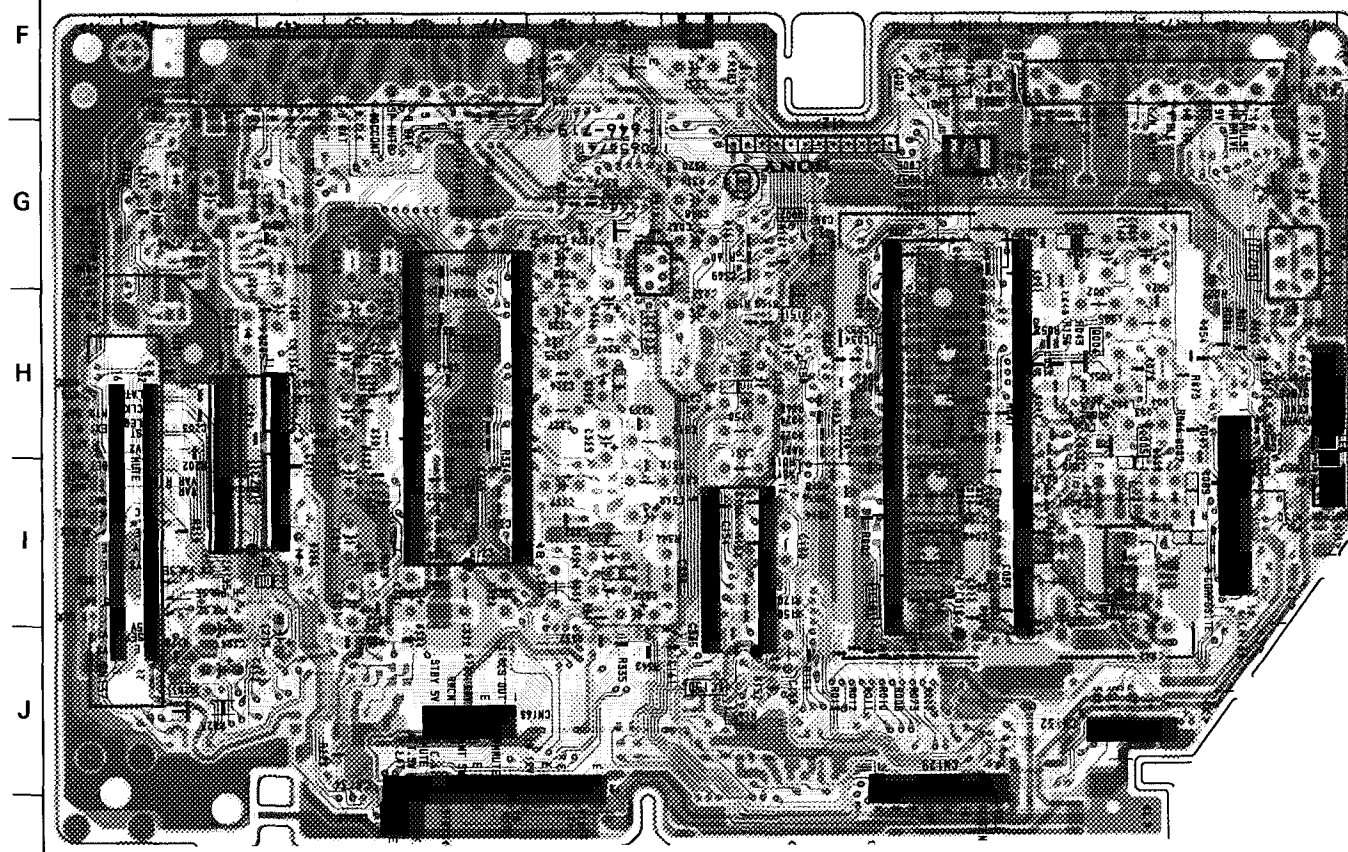
M [Y/C/J, CONTROL,
AUDIO CONTROL,
CLOSED CAPTION]

MC-Service

- M BOARD - (Component Side)



(Conductor Side)



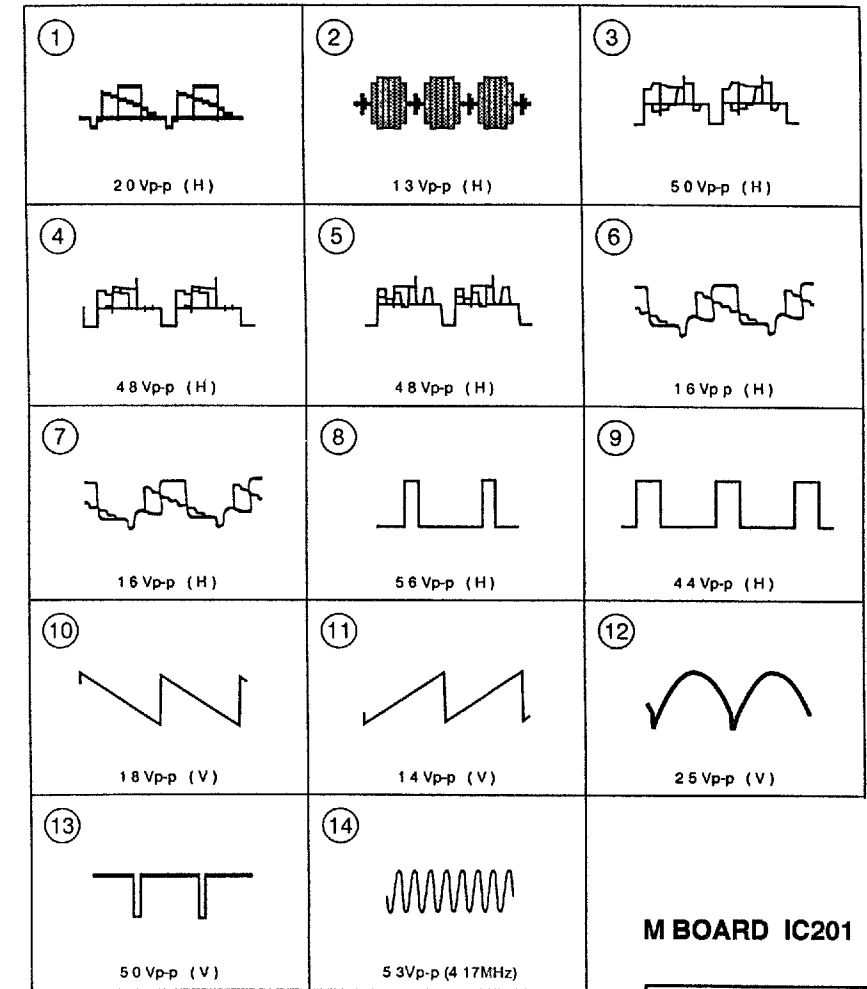
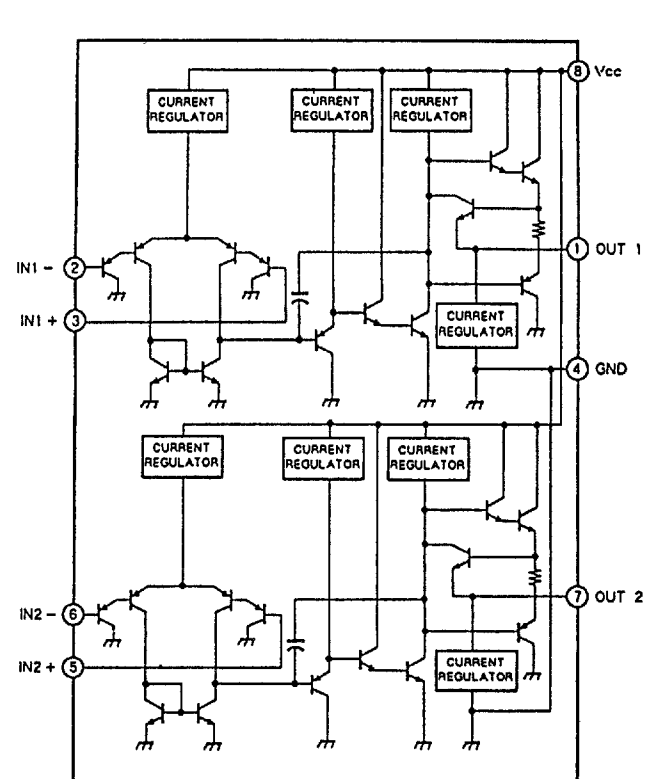
MC-Service

M BOARD IC VOLTAGE LIST

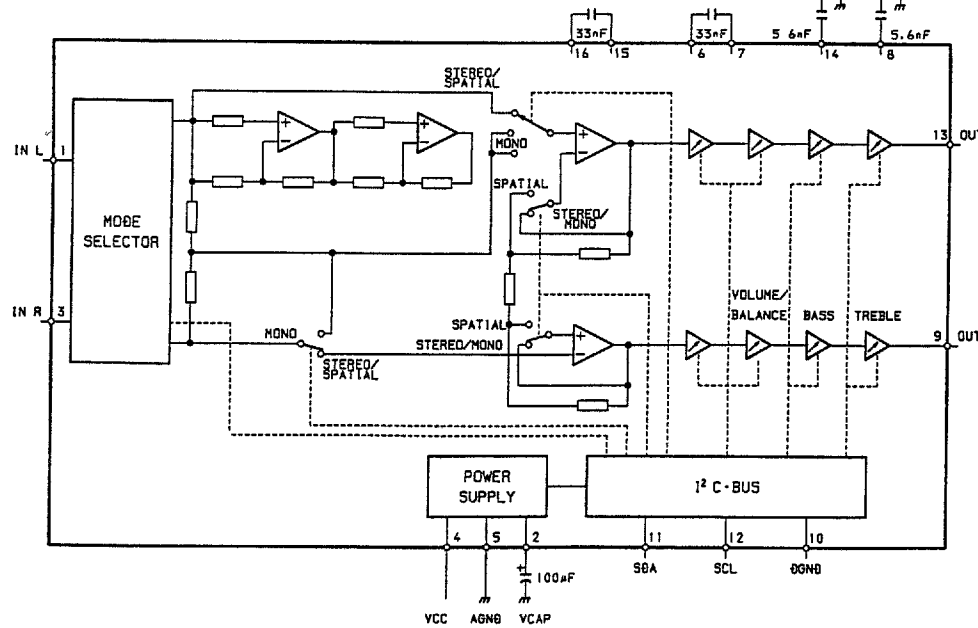
IC101 ⊕	0	⊕	0	⊕	0	⊕	0
E-11 ⊕	0	⊕	50	⊕	0	⊕	0
⊕	49	⊕	50	⊕	0	⊕	0
⊕	49	⊕	51	IC201 ⊕	62	⊕	03
⊕	51	⊕	50	F-3 ⊕	124	⊕	50
⊕	51	⊕	26	⊕	64	⊕	50
⊕	0	⊕	0	⊕	120	⊕	51
⊕	0	⊕	—	⊕	0	⊕	22
⊕	0	⊕	—	⊕	62	⊕	62
⊕	0	⊕	0	⊕	82	⊕	20
⊕	0	⊕	0	⊕	82	⊕	82
⊕	0	⊕	50	⊕	82	⊕	21
⊕	0	⊕	50	⊕	0	⊕	08
⊕	51	IC102 ⊕	0	⊕	50	⊕	50
⊕	51	E-13 ⊕	0	⊕	0	⊕	76
⊕	01	⊕	0	⊕	82	⊕	35
⊕	—	⊕	0	⊕	82	⊕	30
⊕	01	⊕	0	⊕	82	⊕	39
⊕	29	⊕	50	⊕	82	⊕	30
⊕	49	⊕	60	⊕	—	⊕	49
⊕	51	⊕	0	⊕	—	⊕	48
⊕	0	⊕	50	⊕	—	⊕	42
⊕	51	⊕	0	⊕	—	⊕	—
⊕	51	IC103 ⊕	140	IC202 ⊕	61	⊕	—
⊕	01	I-14 ⊕	58	G-3 ⊕	61	⊕	29
⊕	0	⊕	0	⊕	82	⊕	28
⊕	0	⊕	10	⊕	62	⊕	30
⊕	25	⊕	50	⊕	0	⊕	30
⊕	75	⊕	—	⊕	0	⊕	29
⊕	51	IC500 ⊕	0	⊕	62	⊕	40
⊕	0	I-4 ⊕	0	⊕	82	⊕	79
⊕	51	⊕	0	⊕	120	⊕	19
⊕	20	⊕	0	⊕	—	⊕	20
⊕	02	⊕	0	IC301 ⊕	66	⊕	—
⊕	51	⊕	0	F-7 ⊕	90	⊕	50
⊕	51	⊕	0	⊕	50	⊕	—
⊕	51	⊕	0.9	⊕	59	⊕	—
⊕	51	⊕	0	⊕	54	⊕	—
⊕	30	⊕	0	⊕	51	⊕	—
⊕	28	⊕	1.9	⊕	24	⊕	—
⊕	0.9	⊕	0.7	⊕	1	⊕	41
⊕	01	⊕	15	⊕	0	⊕	—
⊕	0	⊕	50	⊕	0	⊕	—
⊕	0	⊕	50	⊕	0	⊕	—
⊕	0	⊕	50	⊕	0	⊕	—

All voltages are in V

• M BOARD WAVEFORMS

**M BOARD IC202 LM358PS-E20**

M BOARD IC201 TDA8424



M BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q001	H-10	52	08	50
Q004	G-14	03	0	09
Q005	F-14	06	01	0
Q151	I-5	14	50	08
Q201	D-3	56	72	49
Q301	C-5	22	0	29
Q302	C-7	29	0	35
Q308	I-15	06	06	0

All voltages are in V

M BOARD * MARK

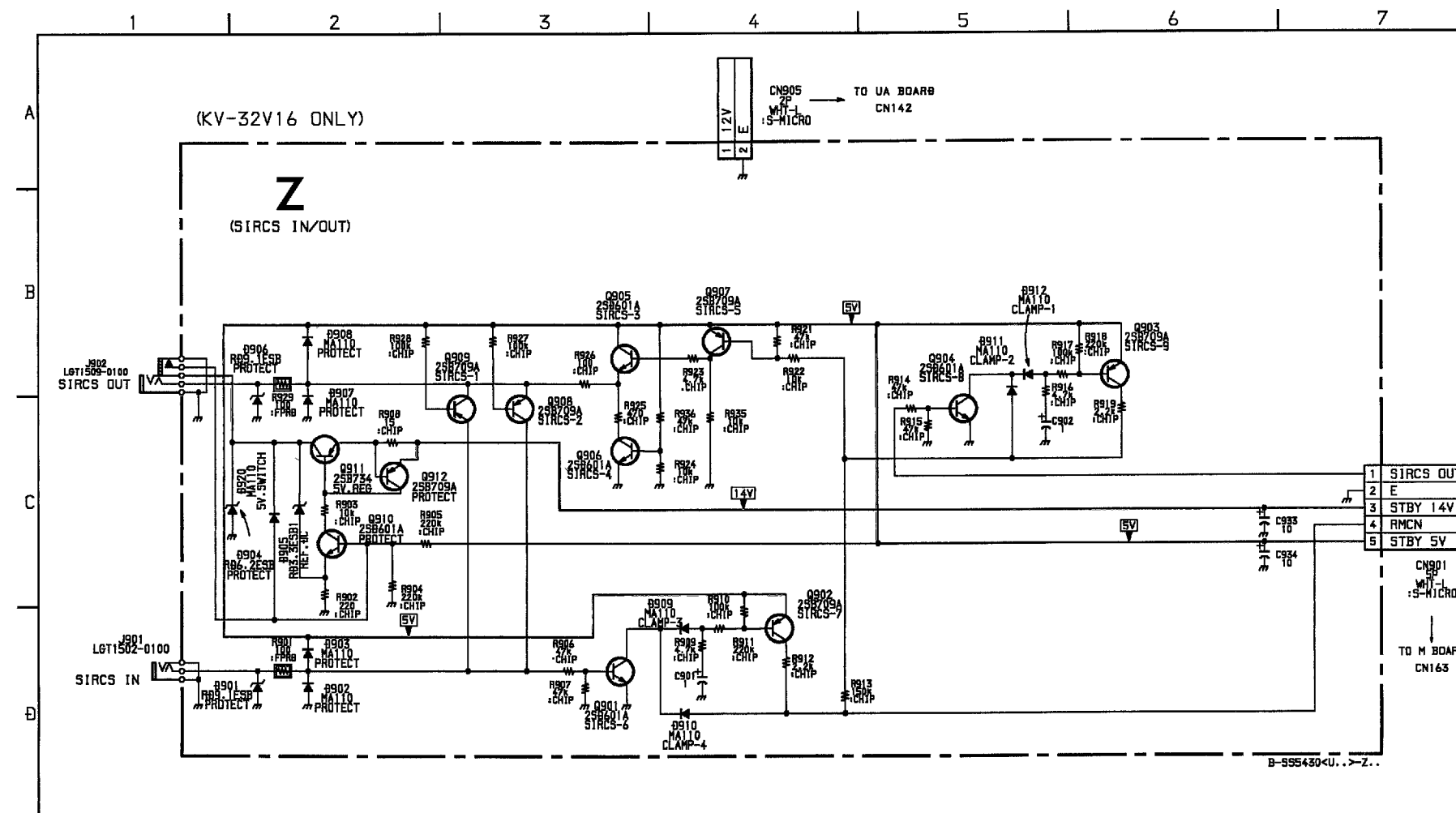
Ref. No	Location	KV-32B12/ S16/V16	KV 32TW67/ 68
C034	G-11	220#	-
C035	G-11	220#	-
C049	G-12	-	12#
C047	H-12	-	24#
C061	H-14	-	100#
QN134	A-3	6P	-
N183	A-2	5P	-
IC101	E-11	CP#0424-0795	CP#0424-084
QD02	H-14	-	2SB70#
R047	G-14	-	47K
R055	G-10	220	-
R060	C-10	18K	-
R083	G-10	220	-
R069	H-12	220	-
R070	F-10	1K	-
R071	G-12	1K	-
R090	H-15	-	27K
R099	F-10	-	10K
R093	G-12	100K	0 CHIP

TO BE MOUNTED

M BOARD IC301 CXA1465AS

Schematic diagrams

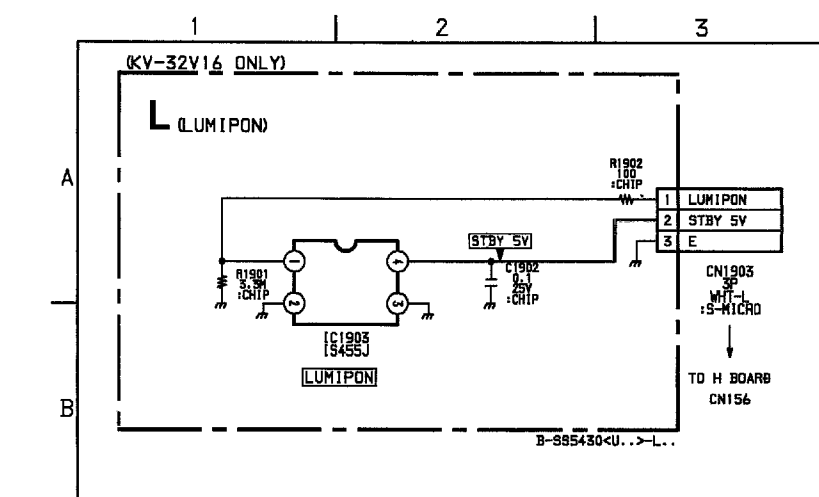
Schematic diagrams



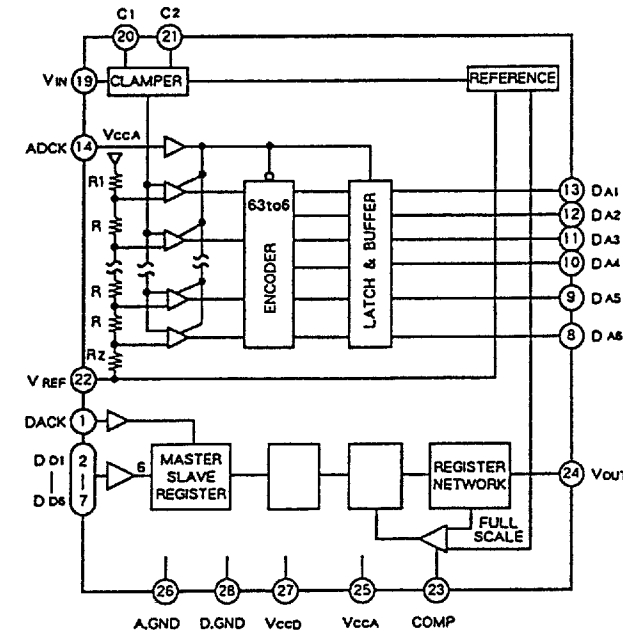
Z BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q901	D-4	0	4.8	0
Q902	D-4	4.9	4.8	5.0
Q903	C-6	4.9	5.0	5.0
Q904	C-5	0	4.9	0
Q905	C-3	0	5.0	0.1
Q906	C-3	0.6	0	0
Q907	C-4	0	5.0	5.0
Q908	C-3	4.9	0	0
Q909	C-3	5.0	0	0
Q910	D-2	5.0	5.0	0
Q911	C-2	5.0	5.0	14.0
Q912	C-2	5.0	14.0	14.0

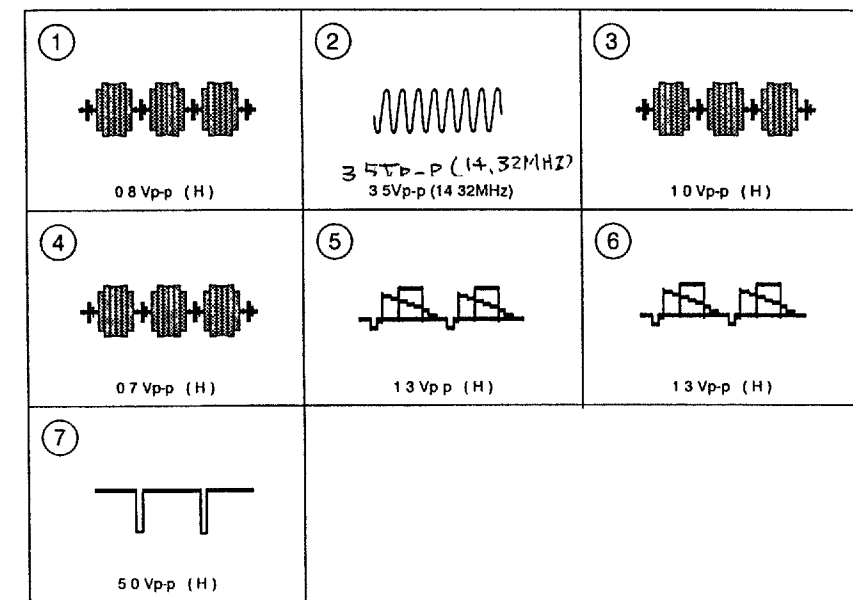
All voltages are in V



P BOARD IC3202, IC3203 MB40176



P BOARD WAVEFORMS



P BOARD IC VOLTAGE LIST

All voltages are in V

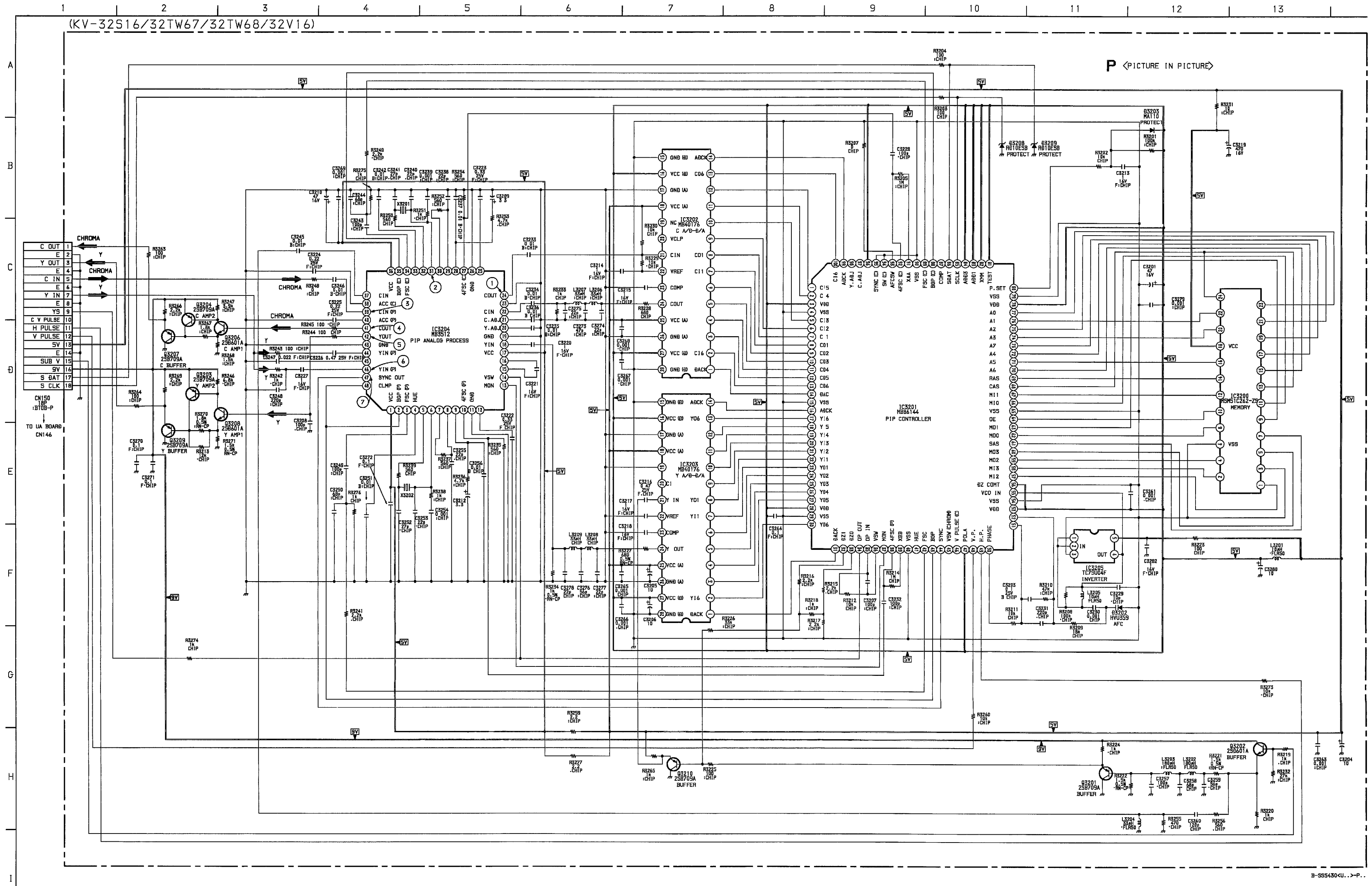
IC3200	20	0	5.0	0	2.4
E-13	18	0	5.0	5.1	2.5
0	0	2.8	5.0	4.1	3.1
13	13	2.9	5.1	2.0	3.3
19	19	2.2	5.0	1.9	3.2
0	0	5.0	—	1.6	3.7
14	14	5.1	4.8	0.9	4.8
16-21	5.1	2.5	2.8	5.0	5.0
23	23	0	5.1	1.5	1.5
20	20	2.4	2.5	2.7	2.8
21	21	2.5	2.4	0	1.5
19	19	0	0	5.0	2.8
38	38	—	0	0	2.0
28	28	4.8	5.0	0	1.4
26	26	3.3	—	—	0
24	24	—	—	—	2.8
23	23	—	—	4.8	2.7
50	50	—	2.7	4.1	2.8
25	25	5.0	0.7	2.8	3.3
26	26	0.9	IC3202	2.6	4.8
25	25	2.5	C-7	5.0	0
25	25	2.5	0.1	5.0	F-11
38	38	3.3	0.1	0	0
IC3201	31	5.0	0.1	IC3205	2.5
E-9	30	2.5	0.1	F-11	2.5
50	50	5.0	0.1	6.0	6.0
0	0	2.0	0.1	—	—
10	10	1.8	0	3.2	—
27	27	1.3	1.0	3.4	—
17	17	1.9	3.0	3.1	—
01	01	1.4	0.7	2.5	—
01	01	16-21	0.7	2.4	—
01	01	0	2.7	2.7	—
01	01	2.0	0	2.5	—
10	10	5.0	0	0	—
01	01	0	0.1	0.1	—
50	50	2.1	5.0	0.1	—
26	26	1.8	—	5.0	—
0	0	3.8	—	2.6	—
27	27	2.8	4.5	2.3	—
15	15	2.8	4.1	5.0	—
28	28	2.4	2.8	2.4	—
09	09	2.3	4.0	0	—
16	16	2.5	5.0	3.5	—
19	19	2.7	0	3.6	—
20	20	2.6	5.0	2.9	—
41	41	2.5	0	1.8	—
51	51	2.5	0	1.8	—
0	0	5.0	IC3203	2.6	0.1
0	0	0	F-7	0	0
51	51	5.0	0.1	0	2.5
50	50	5.0	0	2.7	—

— BLANK PIN

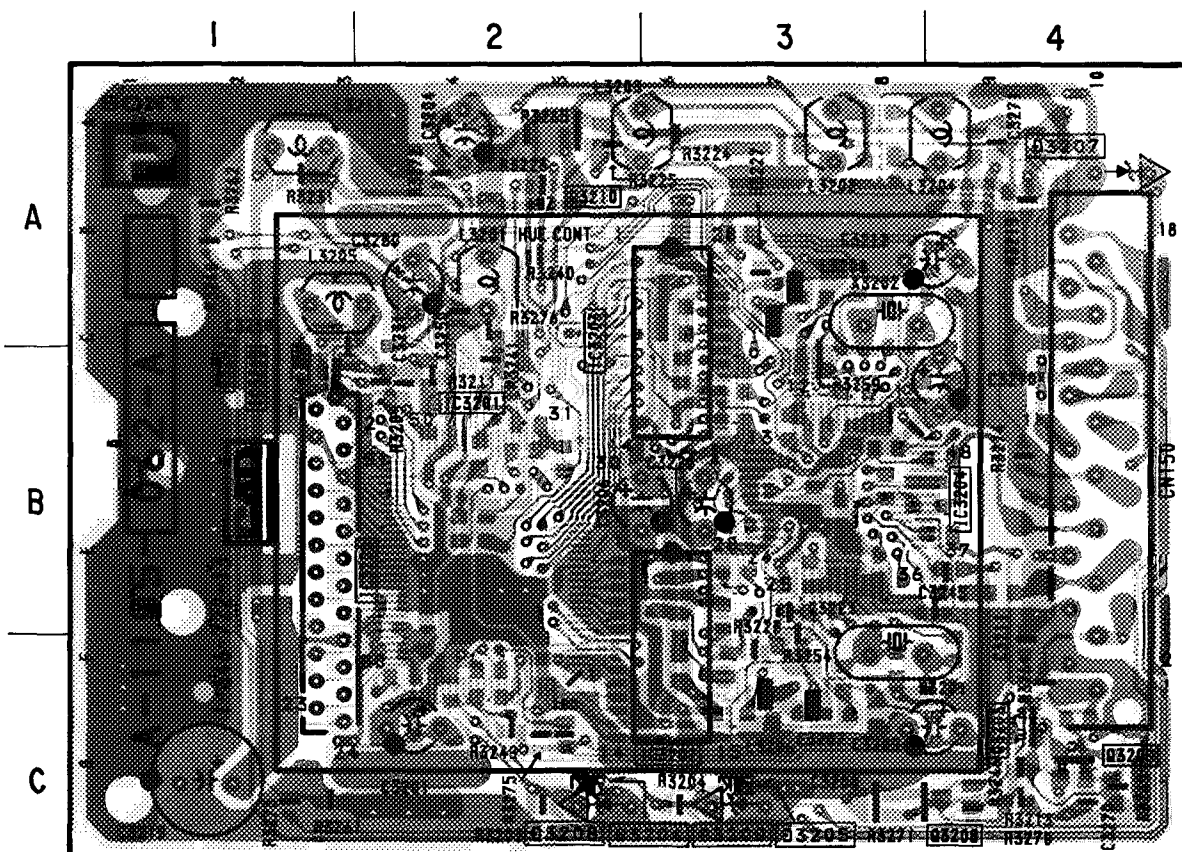
P BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q3201	H-12	1.9	0	2.6
Q3202	H-13	4.5	9.0	3.8
Q3203	E-2	9.6	1.5	9.0
Q3204	D-2	8.5	2.7	9.0
Q3206	D-3	2.0	8.5	1.4
Q3207	D-2	2.7	0	3.4
Q3208	E-3	1.4	8.5	0.9
Q3209	E-2	1.5	0	2.2
Q3210	H-7	2.6	0	3.3

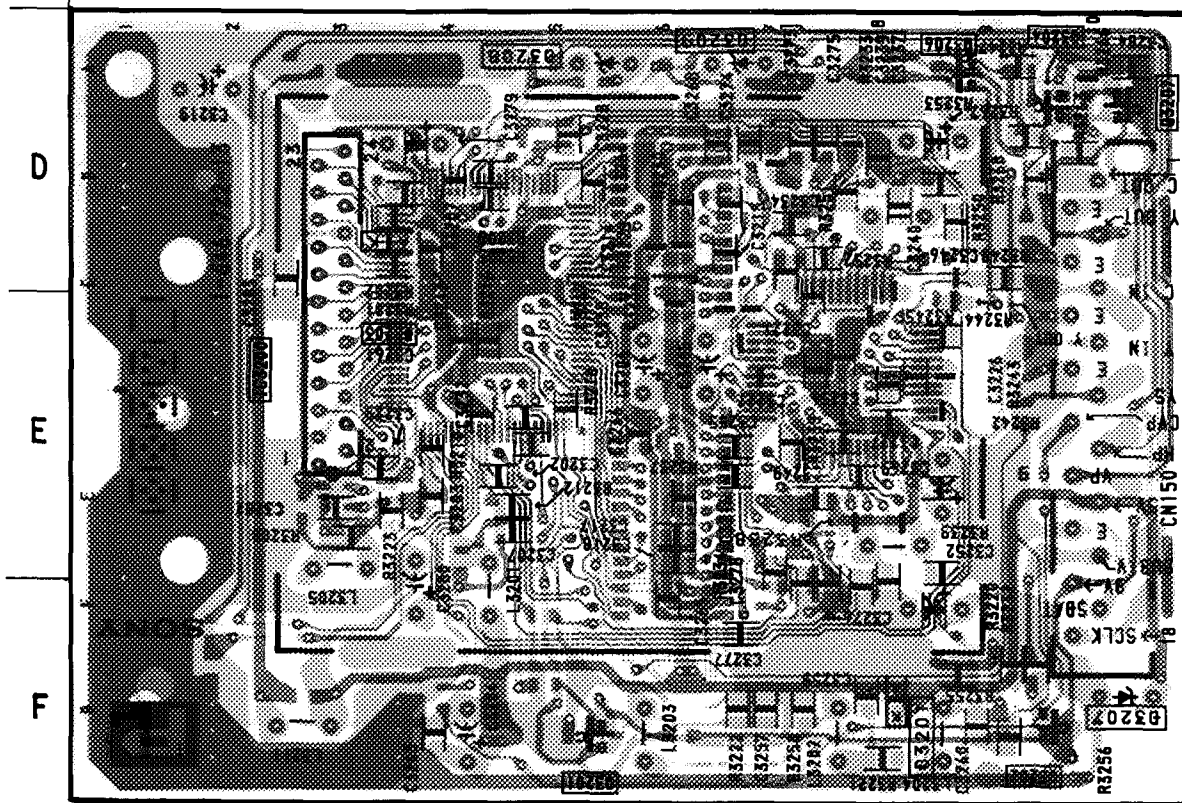
All voltages are in V



— P BOARD — (Component Side) (KV-32S16/32TW67/32TW68/32V16 only)

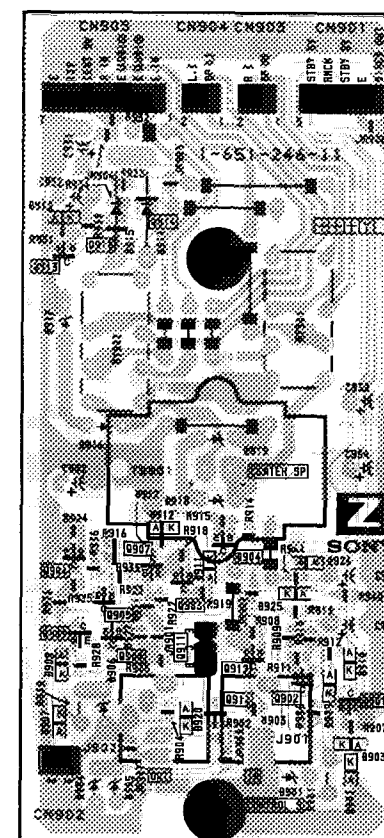


(Conductor Side)

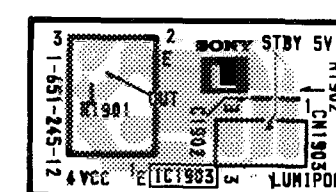


IC	
IC3200	E - 1
IC3201	B - 2
IC3202	C - 3
IC3203	B - 3
IC3204	B - 3
IC3205	B - 1
TRANSISTOR	
Q3201	F - 2
Q3202	F - 4
Q3203	C - 4
Q3204	D - 4
Q3206	D - 4
Q3207	D - 4
Q3208	C - 3
Q3209	C - 4
Q3210	A - 2
DIODE	
D3202	B - 1
D3203	D - 2
D3208	D - 2
D3209	D - 3

— Z BOARD — (KV-32V16 only)



— L BOARD — (KV-32V16 only)



MC-Service

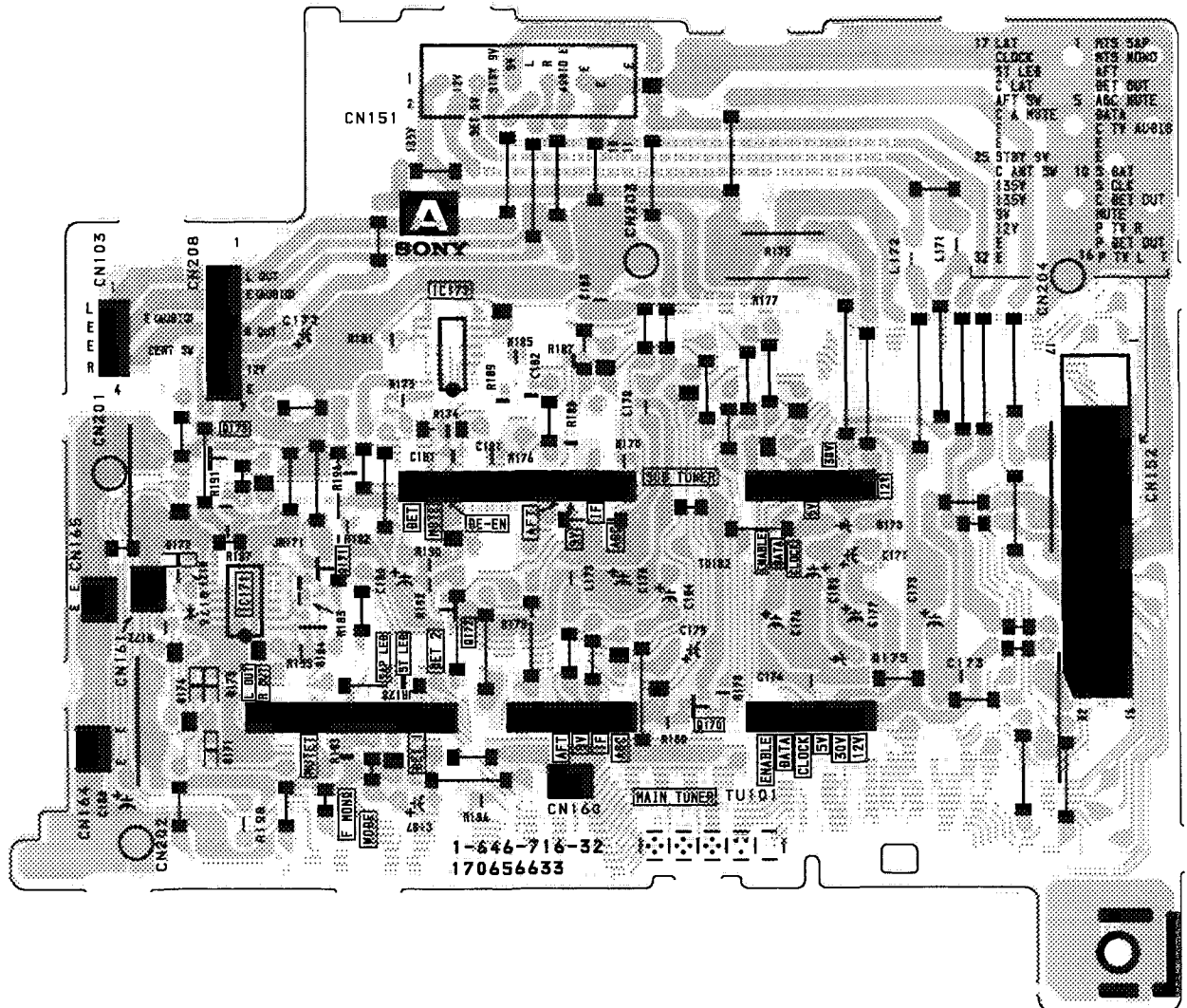
Note :

- Pattern from the side which enables seeing.
- Pattern of the rear side.

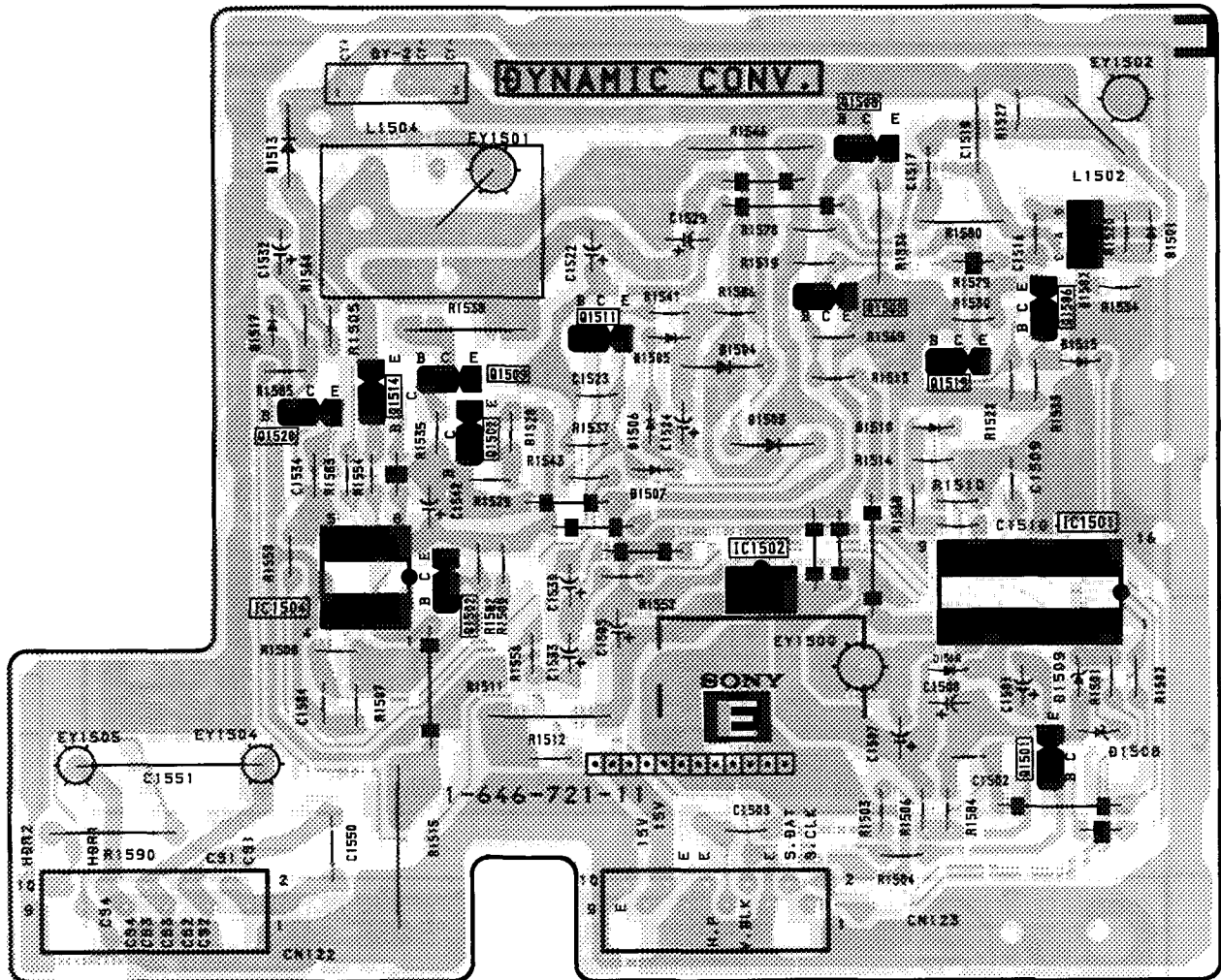
[TU VIF, MTS]

[DYNAMIC,
CONVERGENCE]

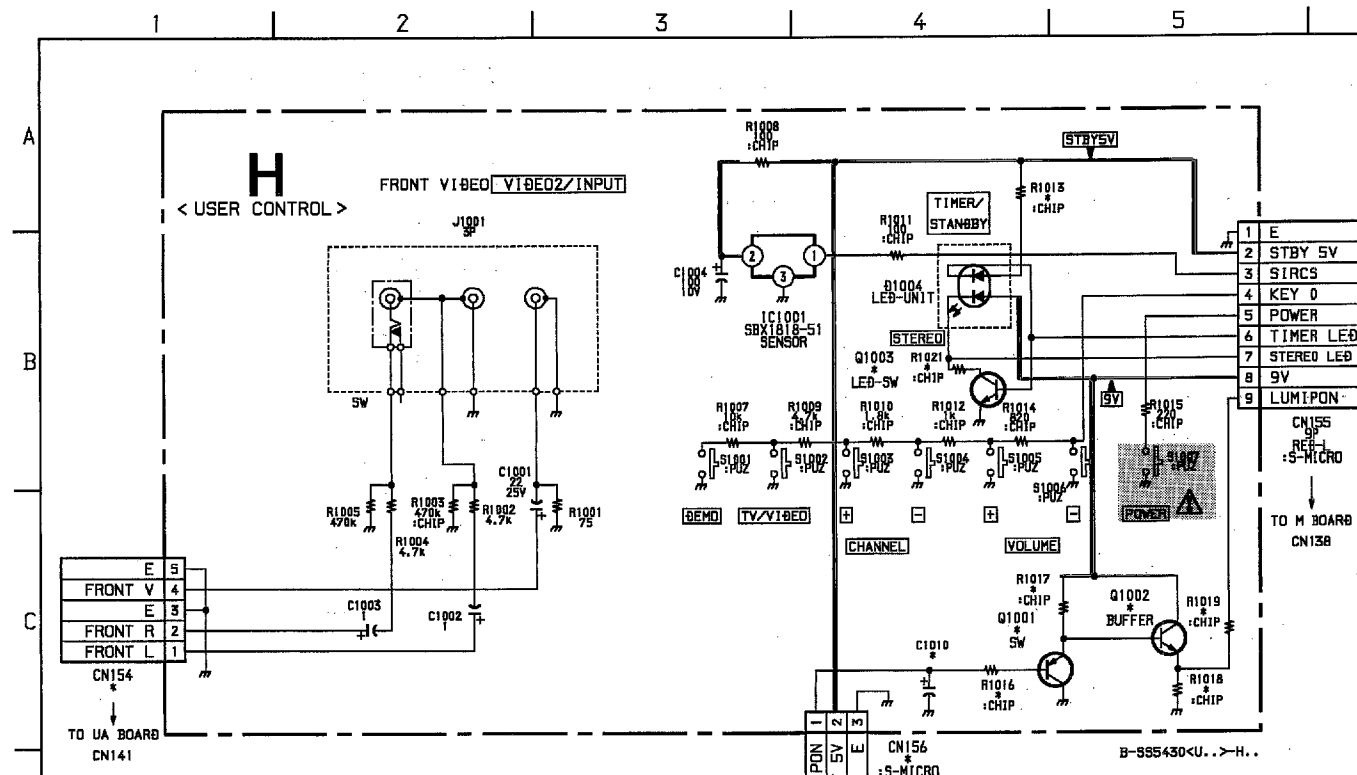
– A BOARD –



— E BOARD —



MC-Service



H BOARD IC VOLTAGE LIST

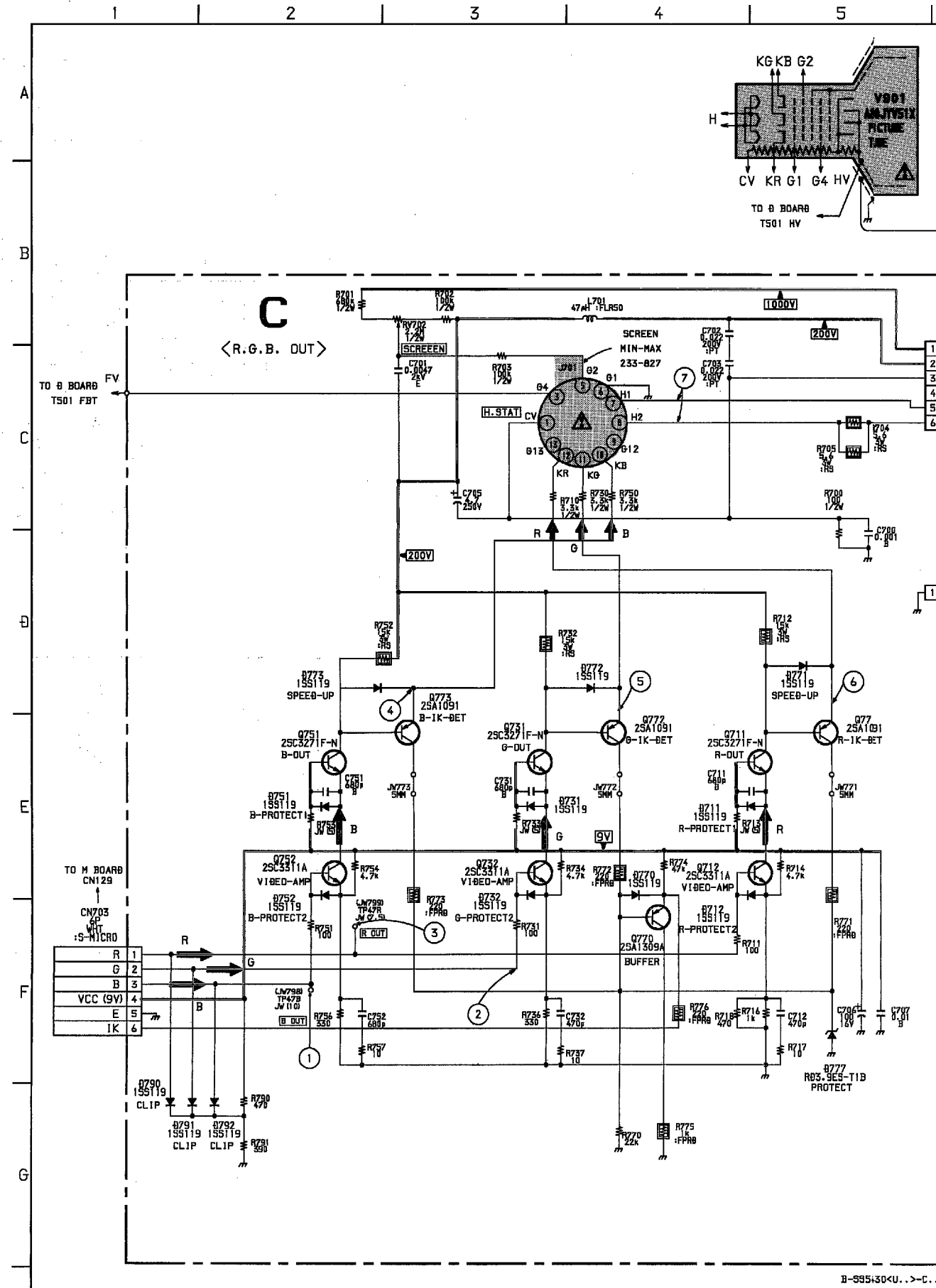
IC1001 ①	4.8	IC1903 ①	0
B-3 ②	5.0	B-2 ②	0
③	0	③	0
		④	5.0

All voltages are in V

H BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q1001	C-5	0	0	4.5
Q1002	C-5	4.5	8.9	5.0
Q1003	B-4	0.1	6.9	0

All voltages are in V



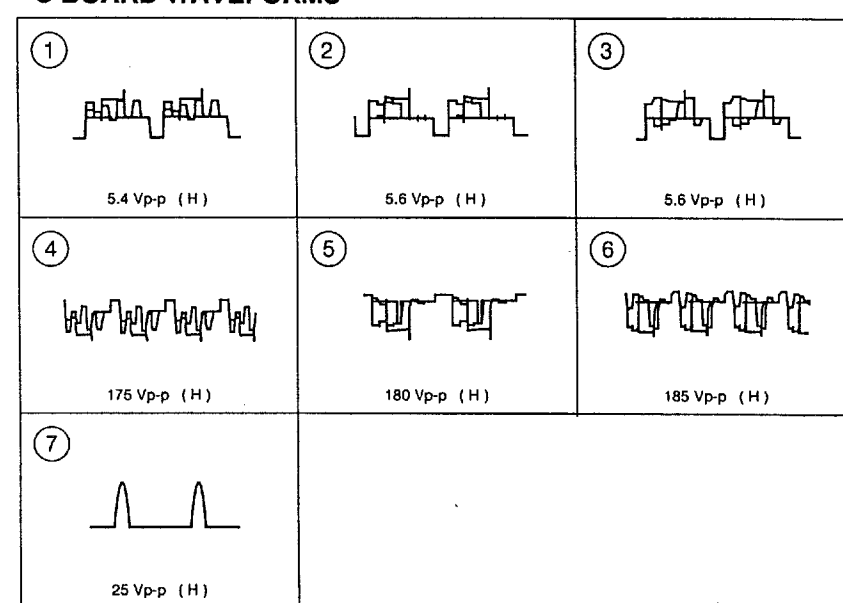
C BOARD TRANSISTOR VOLTAGE LIST

Ref	Location	B	C	E
Q711	E-5	9.0	148.3	8.6
Q712	E-5	2.2	8.6	1.7
Q731	E-3	9.0	157.6	8.6
Q732	E-3	2.0	8.6	1.6
Q751	E-2	9.0	154.2	8.6
Q752	E-2	2.1	8.6	1.7
Q770	F-4	0.8	0	0.4
Q771	E-5	148.3	0.9	145.3
Q772	E-4	157.6	0.9	154.7
Q773	E-3	154.2	0.9	150.8

All voltages are in V

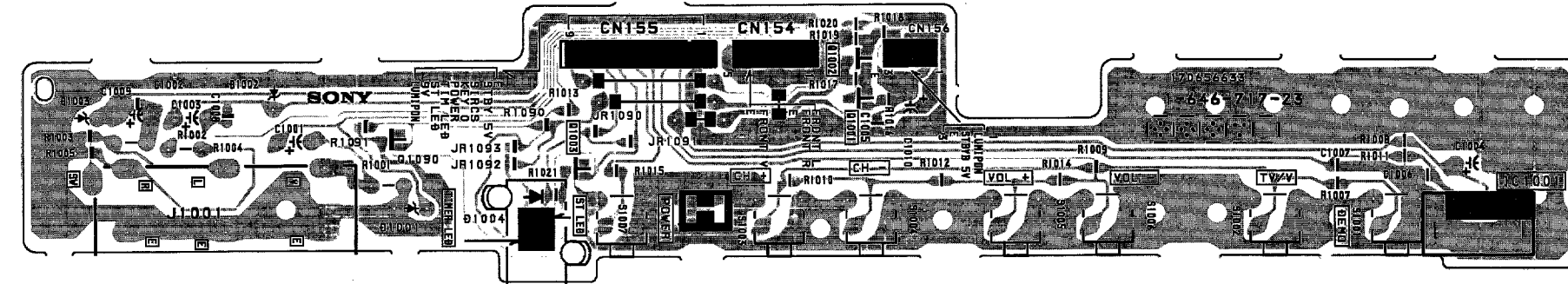
MC-Service

C BOARD WAVEFORMS

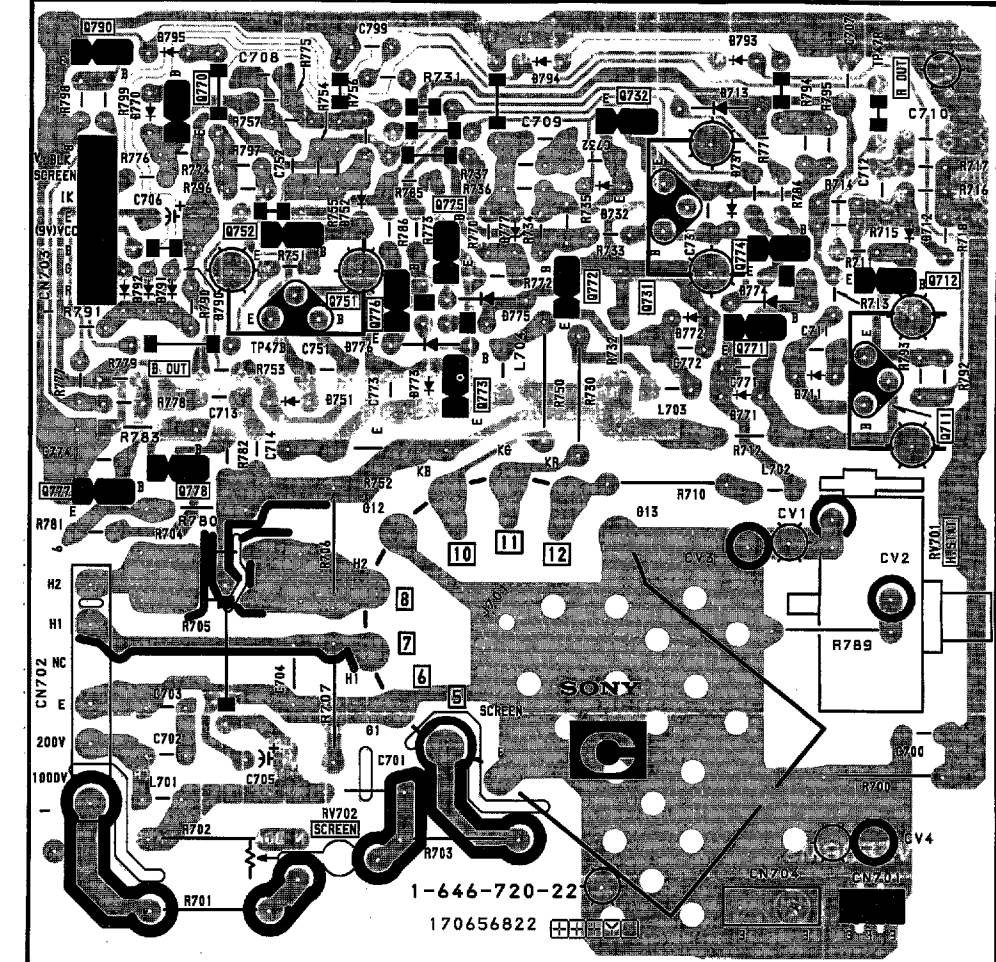


H [USER CONTROL] C [R. G. B. OUT]

- H BOARD -

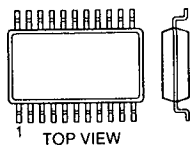


- C BOARD -



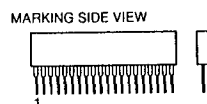
4-5. SEMICONDUCTIONS

BU4053BCF



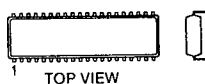
16pin SOP

CAT51C262-ZS
MSM51C262-ZS



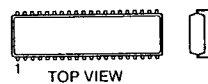
24pin SIP

CXA1465AS
CXA1545AS



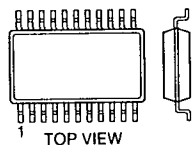
48pin DIP

CXA1526P
MB40176PF-G-BND-EF



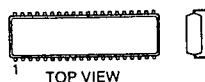
16pin DIP

CXP80424-079S



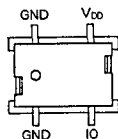
28pin SOP

CXP80424-084S

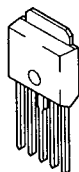


64pin DIP

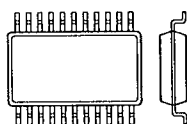
IS455J



L78LR05D-MA

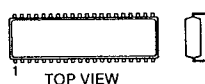


LM358PS



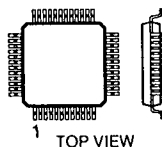
8pin SOP

M52470P



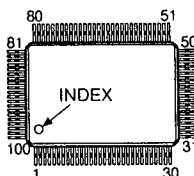
22pin DIP

MB3512PFQ

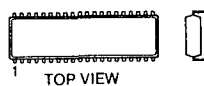


48pin QFP

MB86144BPF-G-BND

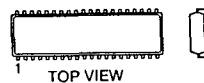


MC144143P2
Z8622812PSC



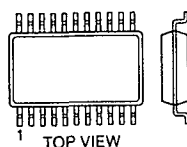
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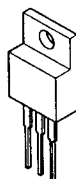
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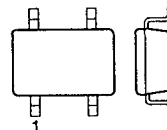
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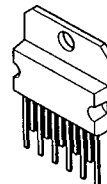


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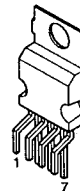


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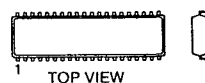
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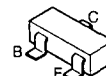
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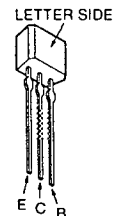
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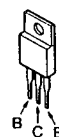


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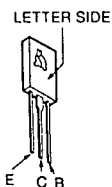
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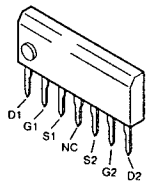
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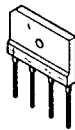


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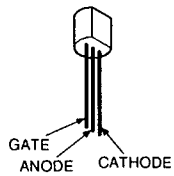
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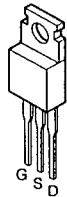
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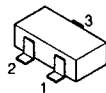
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D5SC4M

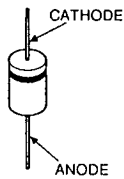


EGP20G

EL1Z

GP08D

RGP02-17EL-6433



D1N20R

D1NS4

ERA83-006

ERA85-009

RD10ESB2

RD12ESB3

RD3.9ESB2

RD30ESB2

RD33ESB1

RD33ESB2

RD5.1ESB1

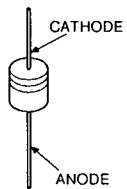
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RD8.2ESB3

RD9.1ESL

1SS119-25

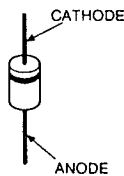
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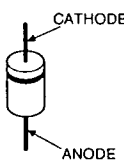
ERC06-15S

S2L20UF

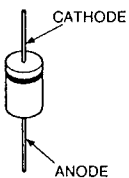
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ERD29-08J



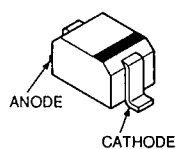
D2S4MF



HVU359TRF

MA110

1T33



SECTION 5 EXPLODED VIEWS

NOTE

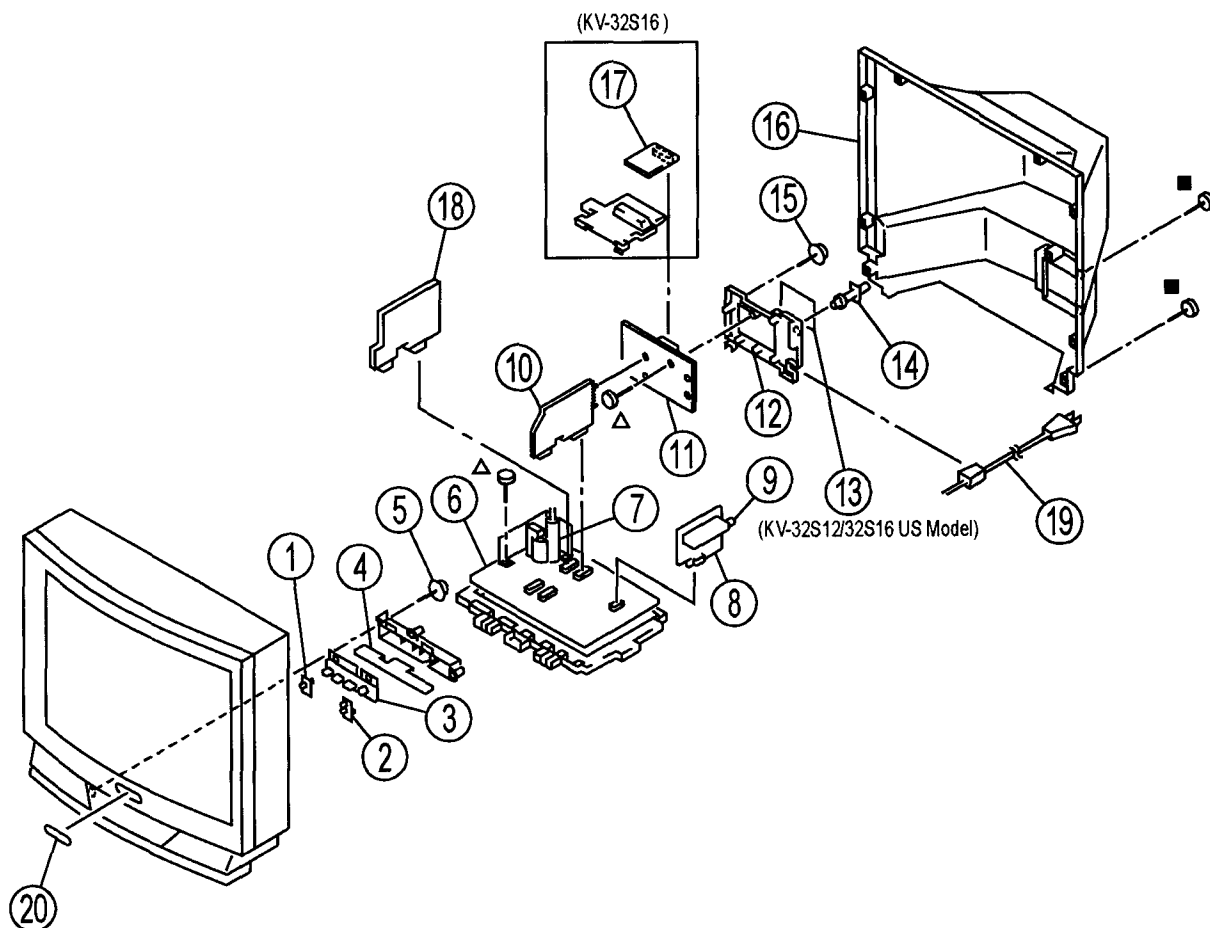
- Items with on part number and on description are not stocked because they are seldom required for routine service
- The construction parts of an assembled part are indicated with a collation number in the remark column
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié

5-1. CHASSIS (KV-32S12/32S16)

Δ +BVTP 4x12 7-685-661-14
■ +BVTP 4X16 7-685-663-79

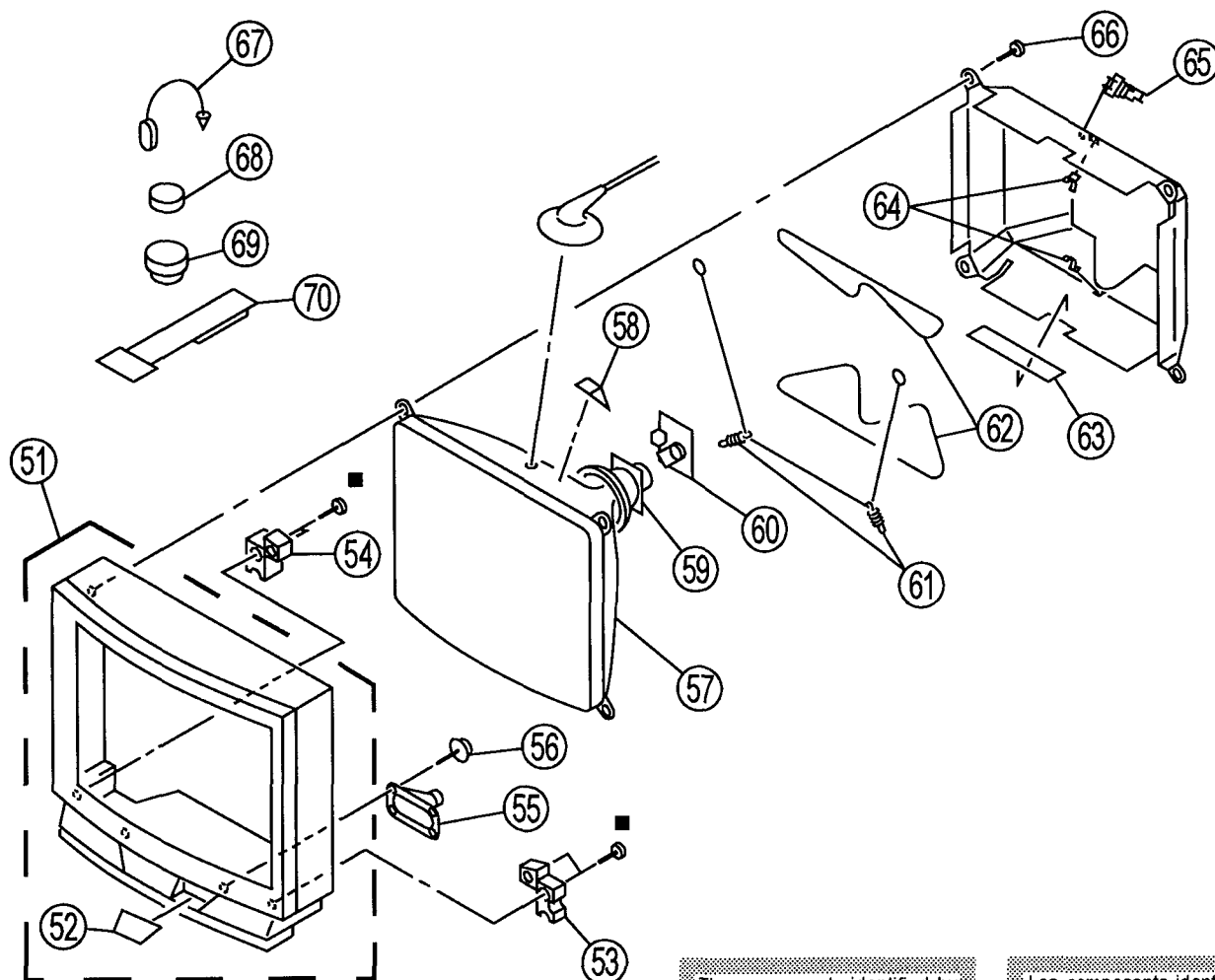



REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
1	4-039-458-01	FILTER, REMOTE			* A-1394-544-A	UA BOARD, COMPLETE (KV-32S16 Canadian model)	
2	4-039-457-21	GUIDE, LED			* A-1394-676-A	UA BOARD, COMPLETE (KV-32S12)	
3	4-043-303-01	BUTTON, MULTI		12	4-039-524-01	PANELE, ANTENNA TERMINAL	
4	* A-1371-994-A	H BOARD, COMPLETE		13	4-039-834-01	LABEL, TERMINAL (KV-32S12/32S16 US model)	
5	4-319-520-11	SCREW, SPECIAL (+PW 4X30)		14	1-766-374-11	PULUG, F-PIN	
6	* A-1364-193-A	D BOARD, COMPLETE		15	4-382-854-11	SCREW (M3X10), P, SW (+)	
7	Δ 1-453-146-11	TRANSFORMER ASSY. FLYBACK (NX-2604A3)		16	4-039-634-11	COVER, REAR	
8	* A-1297-221-A	A BOARD, COMPLETE		17	* A-1195-062-A	P BOARD, COMPLETE (KV-32S16 US model)	
9	Δ 8-598-254-00	TUNER BTF-WA402		18	* A-1341-622-A	E BOARD, COMPLETE	
10	* A-1306-454-A	M BOARD, COMPLETE					
11	* A-1394-527-A	UA BOARD, COMPLETE (KV-32S16 US model)		19	Δ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	
				20	4-046-160-01	EMBLEM (NO 9), SONY	


5-2. PICTURE TUBE (KV-32S12/32S16)




■ BVTP 4x16

7-685-663-79



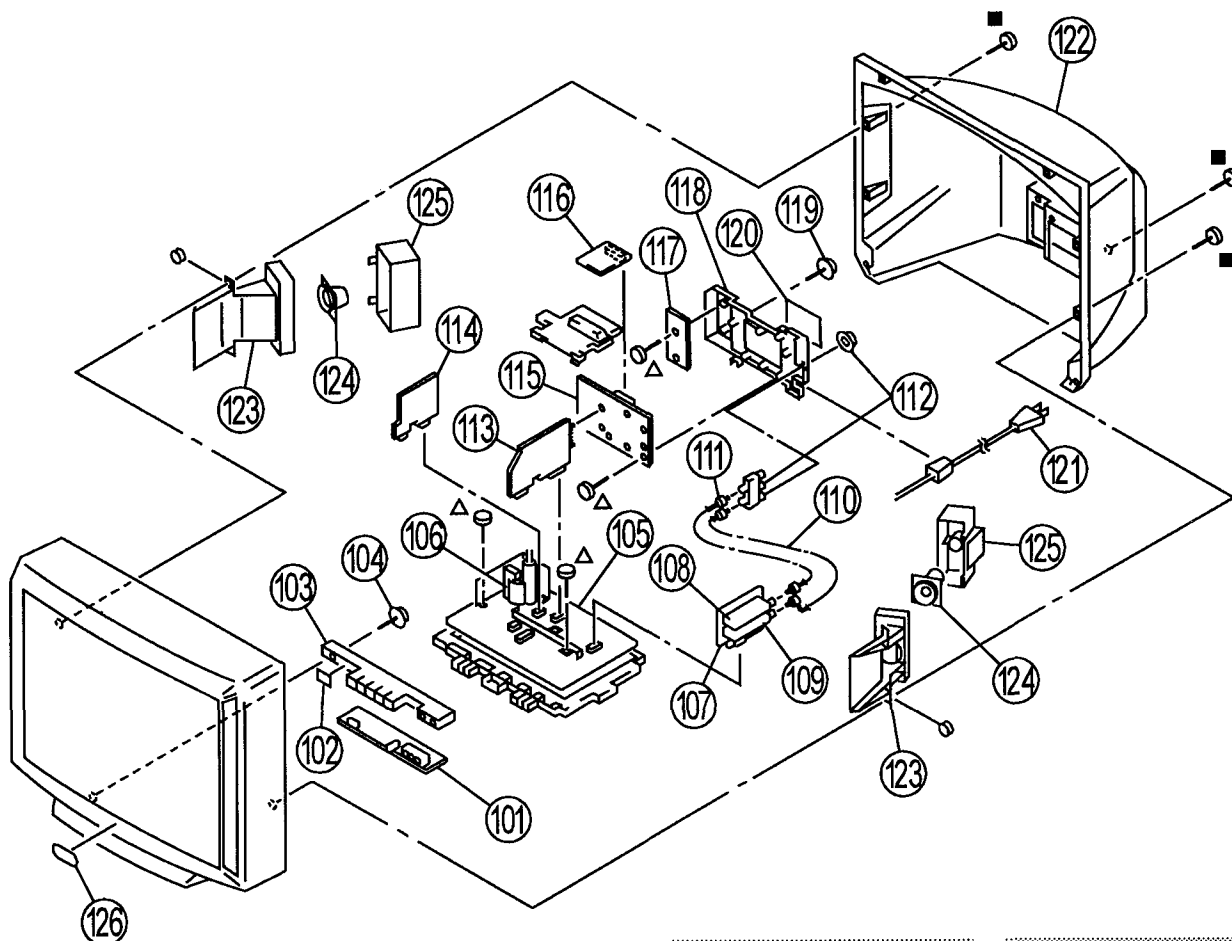
The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
51	X-4031-657-1	BEZET ASSY	52	61	4-063-329-01	SPRING (B), TENSION	
52	4-043-222-01	LID, CONTROL		62	 1-402-952-11	COIL, DEMAGETIZATION	
53	* 4-031-428-11	SUPPORT (RIGHT) (PICTURE TUBE)		63	* 4-031-698-01	SHEET, ADHESIVE	
54	* 4-031-430-11	SUPPORT (LEFT) (PICTURE TUBE)		64	4-371-629-01	STOPPER, WIRE	
55	1-504-531-11	SPEAKER (13 1X6 2CM)		65	4-033-681-01	HOLDER, LEAD	
56	4-388-477-01	SCREW (3X16), TAPPING, +BV WASHER		66	4-041-268-01	SCREW (7), TAPPING	
57	 8-733-739-05	PICTURE TUBE (A80JYV51X)		67	4-308-870-00	CLIP, LEAD WIRE	
58	4-041-361-01	SPACER, DY		68	1-452-032-00	MAGNET, DISC, 10MMø	
59	 8-451-315-41	DEFLECTION YOKE Y34FXA (VTM)		69	1-452-094-00	MAGNET, ROTATABLE DISK, 15MMø	
60	* A-1331-351-A	C BOARD, COMPLETE		70	X-4306-312-0	PERMALLOY AASY, CONVERGENCE	

5-3. CHASSIS (KV-32V16)

△ +BVTP 4x12 7-685-661-14
 ■ +BVTP4X16 7-685-663-79

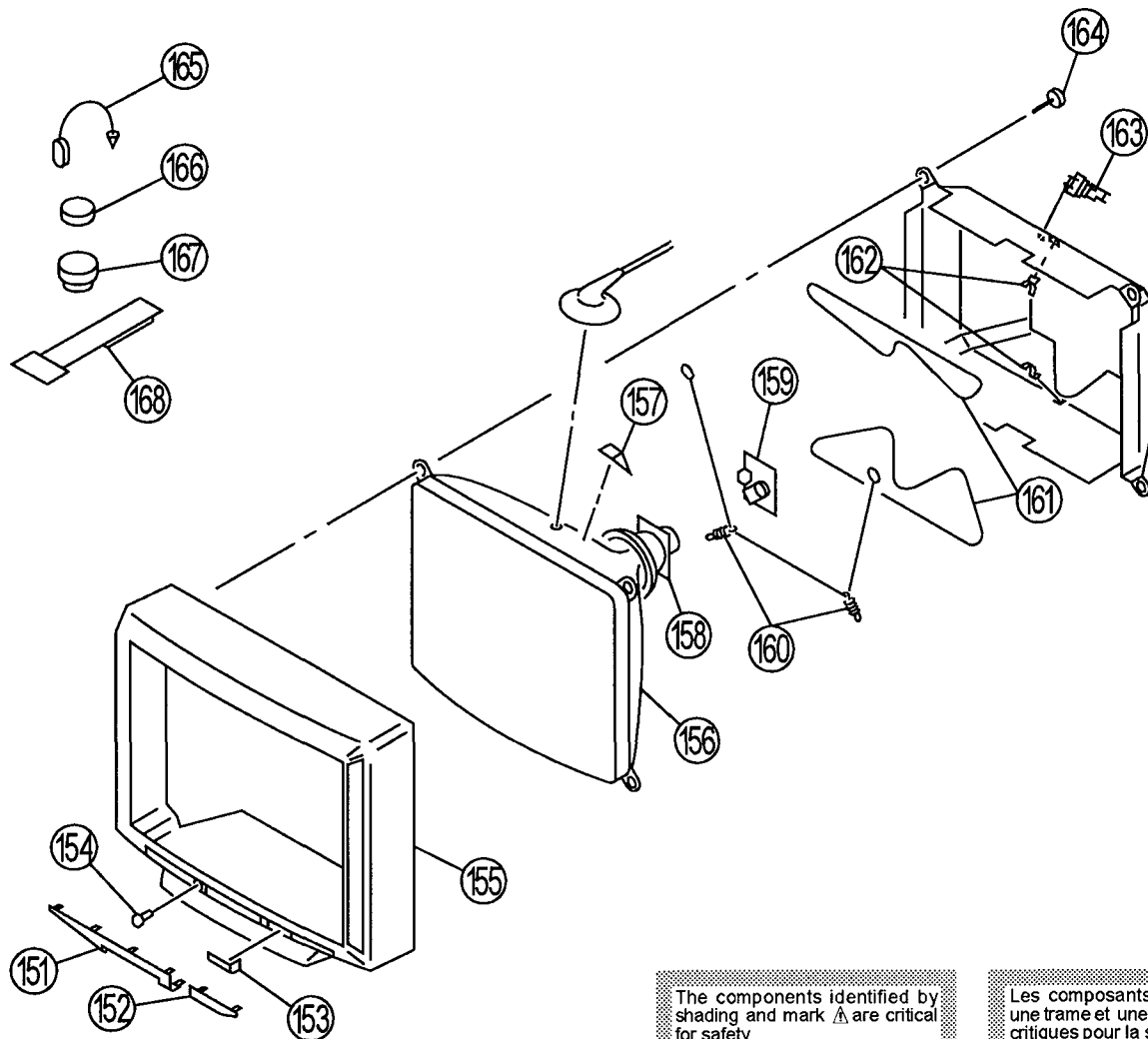


The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
101	* A-1371-998-A	H BOARD, COMPLETE		114	* A-1341-622-A	E BOARD, COMPLETE	
102	* A-1390-410-A	L BOARD, COMPLETE		115	* A-1394-529-A	UA BOARD, COMPLETE	
103	4-043-580-01	BUTTON, MULTI					
104	4-319-520-11	SCREW, SPECIAL (+PW4X30)		116	* A-1195-062-A	P BOARD, COMPLETE	
105	* A-1346-201-A	D BOARD, COMPLETE		117	A-1390-411-A	Z BOARD, COMPLETE	
106	△ 1-453-146-11	TRANSFORMER ASSY. FLYBACK (NX-2604A3)		118	4-039-517-11	PANEL, ANTENNA TERMINAL	
107	* A-1297-233-A	A BOARD, COMPLETE		119	4-382-854-11	CCREW (M3X10), P, SW (+)	
108	△ 8-598-254-00	TUNER BTF-WA402		120	4-039-834-01	LABEL, TERNINAL	
109	△ 8-598-047-11	TUNER, ET BTF-LA401		121	△ 1-751-859-11	CORD. POWER (WITH CONNECTOR) 10A/125V	
110	* 1-751-136-11	CABLE, PIN		122	4-043-579-01	COVER, REAR	
111	* 1-751-135-11	CABLE, PIN		123	4-043-457-01	BAFFLE, SPEAKER	
112	1-417-178-11	SELECTOR, ANTENNA (AS-2)		124	1-504-524-11	SPEAKER (8CM)	
113	* A-1306-454-A	M BOARD, COMPLETE		125	X-4032-226-1	COVER ASSY, SPEAKER	
				126	4-046-160-01	EMBLEM (NO 9) SONY	

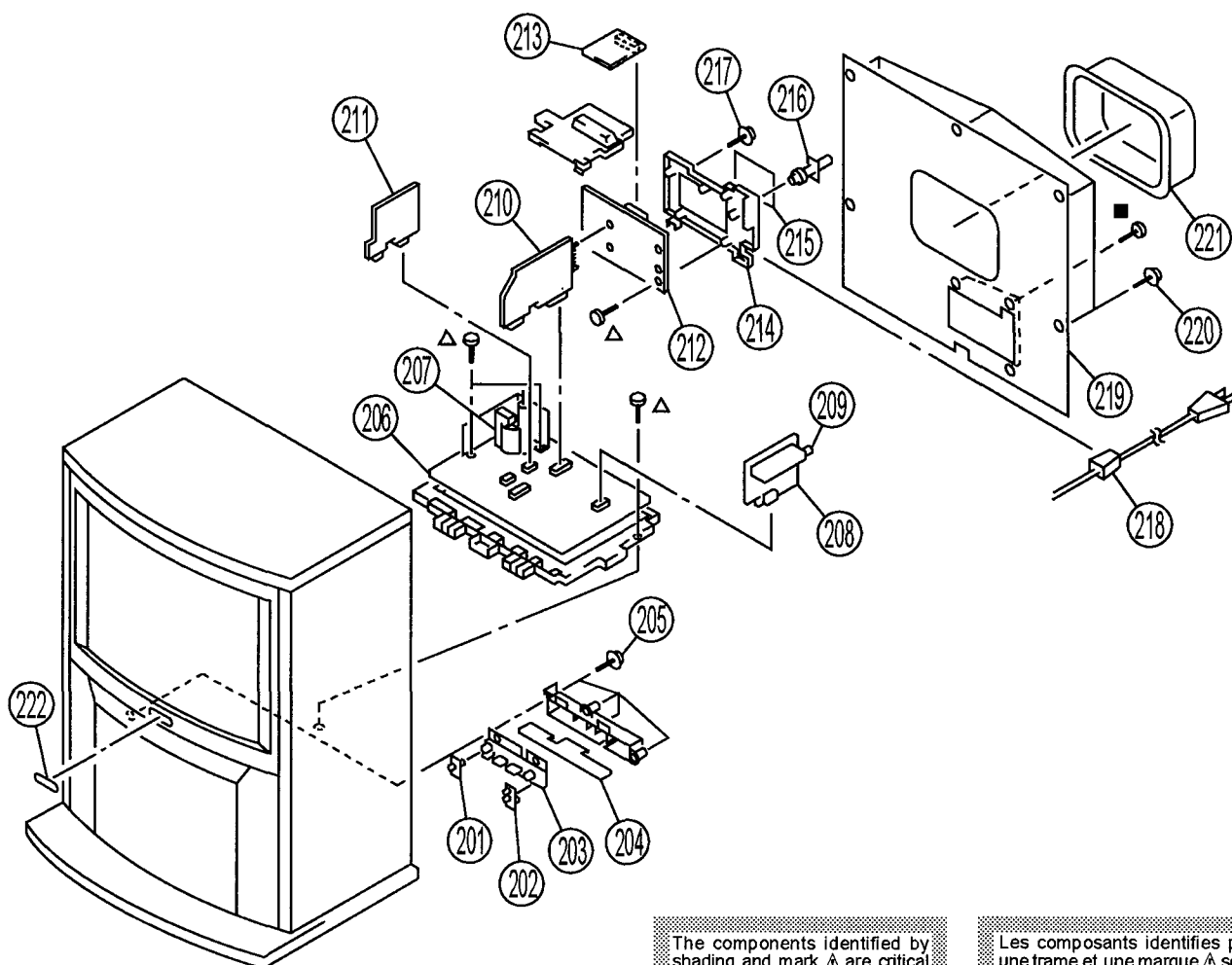
5-4. PICTURE TUBE (KV-32V16)



REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
151	4-043-659-01	PANEL (LEFT), CONTROL		161	▲ 1-402-952-11	COIL, DEMAGNETIZATION	
152	4-043-658-01	PANEL (RIGHT), CONTROL		162	* 4-371-629-01	STOPPER, WIRE	
153	4-043-433-21	DOOR, CONTROL		163	4-033-681-01	HOLDER, LERD	
154	* 4-389-517-01	GUIDE (R), LIGHT		164	4-041-268-01	SCREW (7), TAPPING	
155	4-043-578-01	BEZNET		165	4-308-870-00	CLIP, LEAD WIRE	
156	▲ 8-733-739-05	PICTURE TUBE (A80JYV51X)		166	1-452-032-00	MAGNET, DISK, 10MMø	
157	4-041-361-01	SPACER, DY		167	1-452-094-00	MAGNET, ROTATBLE DISK, 15MMø	
158	▲ 8-451-315-41	DEFLECTION YOKE Y34FXA (VTM)		168	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
159	* A-1331-351-A	C BOARD, COMPLETE					
160	4-036-329-01	SPRING (B), TENSION					

5-5. CHASSIS (KV-32TW67/32TW68)

△ +BVTP 4x12 7-685-661-14
 ■ +BVTP 4x16 7-685-663-79



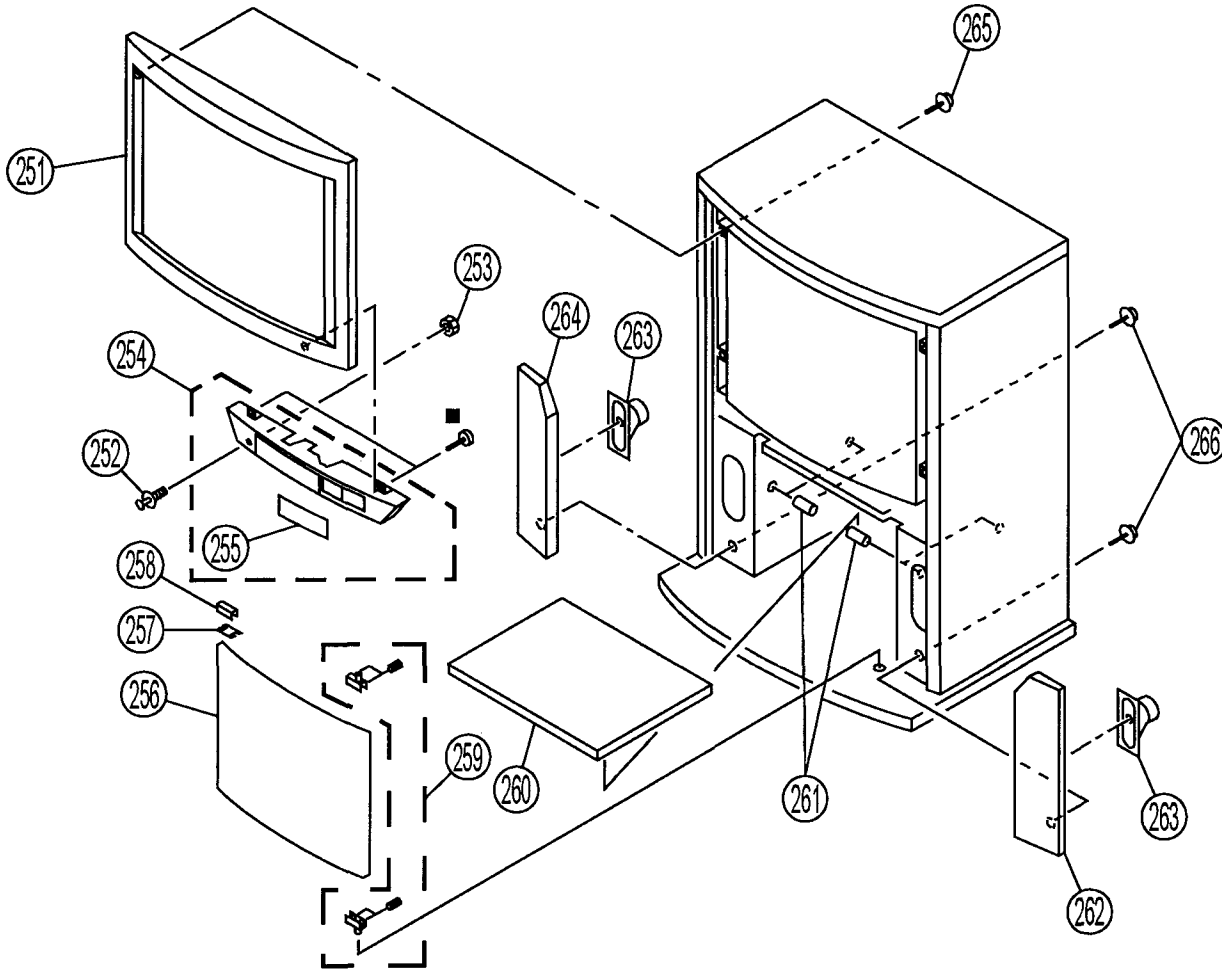
The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
201	4-040-393-01	FILTER, REMOTE		212	* A-1394-415-A	UA BOARD, COMPLETE	
202	4-040-394-01	GUIDE, LED		213	* A-1195-062-A	P BOARD, COMPLETE	
203	4-040-401-01	HOLDER, CHASSIS		214	4-039-524-01	PANEL, ANTENNA TERMINAL	
204	* A-1372-020-A	H BOARD, COMPLETE		215	4-039-834-01	LABEL, TERMINAL	
205	4-319-520-11	SCREW, SPECIAL (+PW4X30)		216	1-766-374-11	PLUG, F-PIN	
206	* A-1346-193-A	D BOARD, COMPLETE		217	4-382-854-11	SCREW (M3X10), P, SW (+)	
207	△ 1-453-146-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)		218	△ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	
208	* A-1297-432-A	A BOARD, COMPLETE		219	4-040-523-01	BOARD, REAR	
209	△ 8-598-254-00	TUNER, BTF-WA402		220	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
210	* A-1306-470-A	M BOARD, COMPLETE		221	4-032-338-11	COVER, NECK	
211	* A-1341-622-A	E BOARD, COMPLETE		222	3-704-179-01	EMBLEM (NO. 9) SONY	

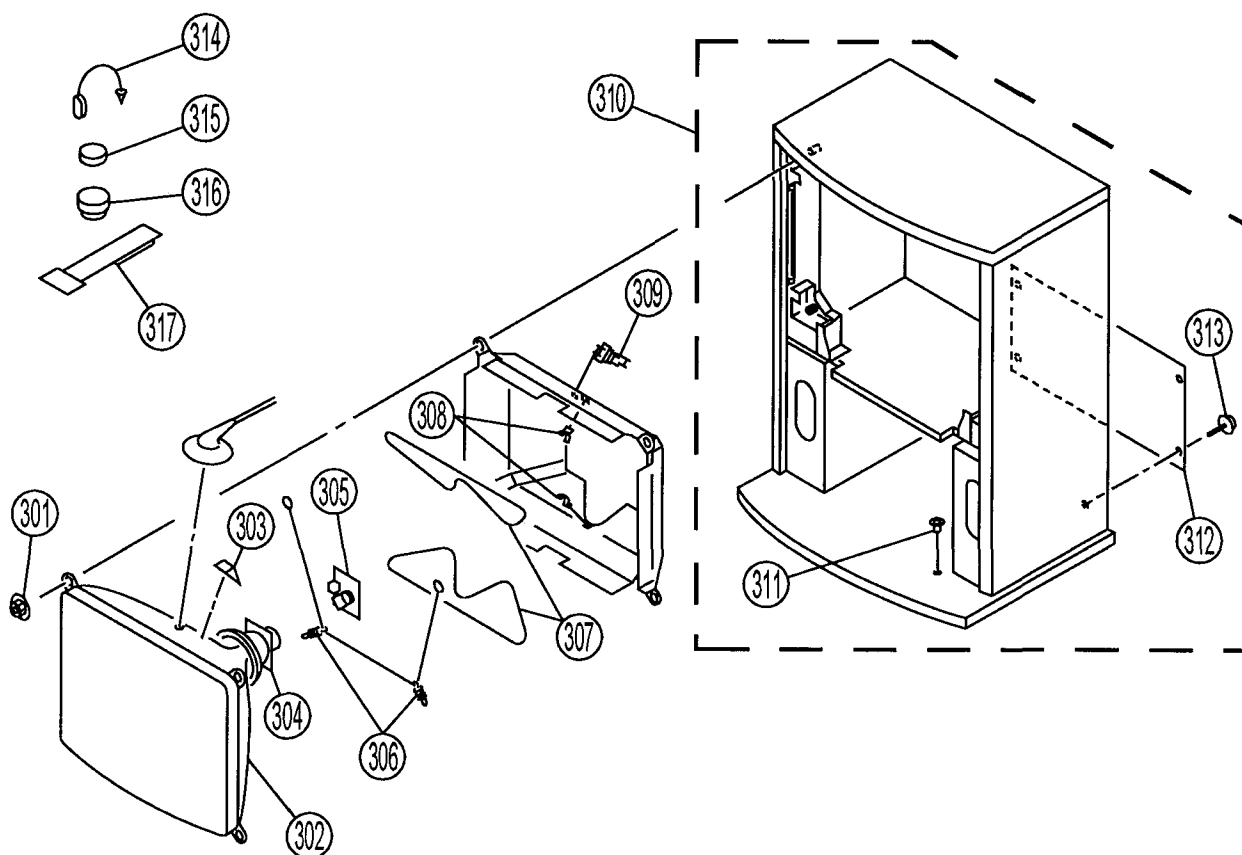
5-6. CONTROL PANEL (KV-32TW67/32TW68)

■ +BVTP 4x16 7-685-663-79



REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
251	4-032-337-11	BEZEL	255	260	X-4031-139-1	PLATE ASSY, RACK	
252	4-032-322-02	MAGNET, PUSH		261	4-041-162-01	PIN, RACK	
253	4-046-172-01	NUT, HEXAGON HEAD		262	X-4031-161-1	GRILLE ASSY (RIGHT), SPEAKER	
254	X-4031-160-1	PANEL ASSY, CONTROL		263	1-544-549-11	SPEAKER	
255	4-040-047-01	DOOR, CONTROL		264	X-4031-162-1	GRILLE ASSY (LEFT), SPEAKER	
256	X-4031-138-1	DOOR ASSY, GLASS		265	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
257	2-352-981-01	SPACER		266	4-384-096-01	SCREW (4X16), TAPPING, +P	
258	2-359-505-01	RETAINER, MAGNET					
259	4-041-362-01	HINGE SET					

5-7. PICTURE TUBE (KV-32TW67/32TW68)



The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
301	4-387-204-01	NUT, SPECIAL, CRT		311	2-112-350-01	BEARING	
302	A 8-733-739-05	PICTURE TUBE (A80JYV51X)		312	4-040-389-01	BOARD, LOWER	
303	4-041-361-01	SPACER, DY		313	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
304	A 8-451-315-41	DEFLECTION YOKE Y34FXA (VTM)		314	4-308-870-00	CLIP, LEAD WIRE	
305	* A-1331-351-A	C BOARD, COMPLETE		315	1-452-032-00	MAGNET, DISC, 10MMØ	
306	4-033-329-01	BRACKET, MAIN		316	1-452-094-00	MAGNET, ROTATABLE DISK, 15MMØ	
307	A 1-482-952-11	COIL, DEMAGNETIZATION		317	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
308	4-371-629-01	STOPPER, WIRE					
309	4-033-681-01	HOLDER, LEAD					
310	* X-4031-163-1	CABINET ASSY (KV-32TW67)	311-313				
	* X-4031-163-2	CABINET ASSY (KV-32TW68)	311-313				

A**M**

SECTION 6 ELECTRICAL PARTS LIST

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Items marked "A" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

• All resistors are in ohms
• F nonflammable

When indicating **A** parts by reference number, please include the board name.

CAPACITORS COILS
• MF μ F, PF μ F • MMH mH, UH μ H

• The components identified by **A** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
	* A-1297-221-A	A BOARD, COMPLETE (KV-32S12/KV32S16) *****		Q173	8-729-424-02	TRANSISTOR 2SA1162-G (KV-32V16)	
	* A-1297-233-A	A BOARD, COMPLETE (KV-32V16) *****				<RESISTOR>	
	* A-1297-432-A	A BOARD, COMPLETE (KV-32TW67/KV-32TW68) *****		R170	1-216-025-91	METAL GLAZE 100 5% 1/10W (KV-32S12/32S16/32TW67/32TW68)	
		<CAPACITOR>		R173	1-216-295-91	CONDUCTOR, CHIP (2012) (KV-32V16)	
C173	1-164-232-11	CERAMIC CHIP 0 01MF 10% 50V		R174	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
C174	1-164-232-11	CERAMIC CHIP 0 01MF 10% 50V		R175	1-215-900-11	METAL OXIDE 22K 5% 2W F (KV-32V16)	
C175	1-126-935-11	ELECT 470MF 20% 16V		R177	1-215-900-11	METAL OXIDE 22K 5% 2W F	
C176	1-126-935-11	ELECT 470MF 20% 16V		R179	1-216-065-00	METAL GLAZE 47K 5% 1/10W	
C177	1-126-964-11	ELECT 10MF 20% 50V		R181	1-216-025-91	METAL GLAZE 100 5% 1/10W (KV-32V16)	
C178	1-126-933-11	ELECT 100MF 20% 16V		R185	1-216-025-91	METAL GLAZE 100 5% 1/10W (KV-32V16)	
C179	1-128-551-11	ELECT 22MF 20% 25V		R187	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
C180	1-128-551-11	ELECT 22MF 20% 25V (KV-32V16)		R188	1-216-689-11	METAL GLAZE 39K 5% 1/10W (KV-32V16)	
C181	1-164-161-11	CERAMIC CHIP 0 0022MF 10% 50V		R189	1-216-083-00	METAL GLAZE 27K 5% 1/10W (KV-32V16)	
C182	1-164-161-11	CERAMIC CHIP 0 0022MF 10% 50V (KV-32V16)		R190	1-216-065-00	METAL GLAZE 47K 5% 1/10W (KV-32V16)	
C184	1-126-964-11	ELECT 10MF 20% 50V (KV-32V16)		R191	1-216-065-00	METAL GLAZE 47K 5% 1/10W (KV-32V16)	
C185	1-126-964-11	ELECT 10MF 20% 50V (KV-32V16)		R193	1-216-037-00	METAL GLAZE 330 5% 1/10W (KV-32S12/32S16/32V16)	
		<CONNECTOR>		R196	1-216-037-00	METAL GLAZE 330 5% 1/10W (KV-32V16)	
CN103	* 1-564-519-11	PLUG, CONNECTOR 4P				<TUNER>	
CN151	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P		TU101	A 8-598-254-00	TUNER, BTF-WA402	
CN152	1-766-774-11	CONNECTOR, BOARD TO BOARD 32P		TU102	A 8-598-047-11	TUNER, ET BTF-LA401 (KV-32V16)	
CN164	1-564-505-11	PLUG, CONNECTOR 2P				*****	
CN165	1-564-505-11	PLUG, CONNECTOR 2P				* A-1306-454-A	M BOARD, COMPLETE (KV-32S12/32S16/32V16) *****
		<DIODE>				* A-1306-470-A	M BOARD, COMPLETE (KV32TW67/32TW68) *****
D170	8-719-113-92	DIODE RD33ES-B1				<CAPACITOR>	
D175	8-719-113-92	DIODE RD33ES-B1 (KV-32V16)		C002	1-163-809-11	CERAMIC CHIP 0 047MF 10% 25V	
		<IC>		C003	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
IC172	8-759-932-67	IC BU4053BCF (KV-32V16)		C005	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
		<COIL>		C006	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
L170	1-408-408-00	INDUCTOR 8 2UH		C007	1-124-903-11	ELECT 1MF 20% 50V	
L171	1-408-408-00	INDUCTOR 8 2UH		C008	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
L172	1-408-408-00	INDUCTOR 8 2UH		C009	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
L173	1-408-408-00	INDUCTOR 8 2UH (KV-32V16)		C010	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
		<TRANSISTOR>		C012	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
Q172	8-729-424-02	TRANSISTOR 2SA1162-G (KV-32V16)		C013	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
				C014	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
				C015	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO.	DESCRIPTION	REMARK
C016	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C301	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C017	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C305	1-126-964-11	ELECT	10MF 20% 50V
C018	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C306	1-124-902-00	ELECT	0.47MF 20% 50V
C019	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C307	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C021	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C308	1-163-099-00	CERAMIC CHIP	18PF 5% 50V
C022	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C310	1-128-551-11	ELECT	22MF 20% 25V
C023	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C311	1-124-903-11	ELECT	1MF 20% 50V
C025	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C313	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C028	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C315	1-126-964-11	ELECT	10MF 20% 50V
C029	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C316	1-126-964-11	ELECT	10MF 20% 50V
C032	1-124-902-00	ELECT	0.47MF 20% 50V	C317	1-126-964-11	ELECT	10MF 20% 50V
C033	1-126-933-11	ELECT	100MF 20% 10V	C318	1-136-165-00	FILM	0.1MF 5% 50V
C034	1-163-001-11	CERAMIC CHIP	220PF 10% 50V (KV-32S12/32S16/32V16)	C319	1-136-165-00	FILM	0.1MF 5% 50V
C035	1-163-001-11	CERAMIC CHIP	220PF 10% 50V (KV-32S12/32S16/32V16)	C320	1-136-165-00	FILM	0.1MF 5% 50V
C041	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V	C321	1-126-952-11	ELECT	1000MF 20% 16V
C043	1-163-159-00	CERAMIC CHIP	12PF 20% 50V (KV-32TW67/32TW68)	C322	1-136-153-00	FILM	0.01MF 5% 50V
C045	1-126-940-11	ELECT	330MF 20% 16V	C323	1-126-923-11	ELECT	220MF 20% 10V
C047	1-104-896-11	CERAMIC CHIP	24PF 20% 50V (KV-32TW67/32TW68)	C324	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C048	1-126-964-11	ELECT	10MF 20% 50V	C325	1-163-037-11	CERAMIC CHIP	0.022MF 10% 25V
C049	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C326	1-136-169-00	FILM	0.22MF 5% 50V
C050	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C327	1-136-169-00	FILM	0.22MF 5% 50V
C051	1-163-031-11	CERAMIC CHIP	0.01MF 50V	C328	1-124-902-00	ELECT	0.47MF 20% 50V
C052	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C329	1-124-903-11	ELECT	1MF 20% 50V
C053	1-163-121-00	CERAMIC CHIP	150PF 5% 50V	C330	1-126-964-11	ELECT	10MF 20% 50V
C054	1-163-125-00	CERAMIC CHIP	220PF 5% 50V	C332	1-164-489-11	CERAMIC CHIP	0.22MF 10% 16V
C055	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C333	1-163-011-11	CERAMIC CHIP	0.0015MF 10% 50V
C056	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C334	1-124-902-00	ELECT	0.47MF 20% 50V
C057	1-163-017-00	CERAMIC CHIP	0.0047MF 10% 50V	C335	1-163-001-11	CERAMIC CHIP	220PF 10% 50V
C058	1-163-037-11	CERAMIC CHIP	0.022MF 10% 25V	C336	1-124-903-11	ELECT	1MF 20% 50V
C059	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	C337	1-124-902-00	ELECT	0.47MF 20% 50V
C060	1-124-903-11	ELECT	1MF 20% 50V	C338	1-136-153-00	FILM	0.01MF 5% 50V
C061	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (KV-32TW67/32TW68)	C340	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
C062	1-126-964-11	ELECT	10MF 20% 50V	C342	1-106-359-00	MYLAR	0.0047MF 10% 100V
C150	1-136-165-00	FILM	0.1MF 5% 50V	<CONNECTOR>			
C151	1-136-495-11	FILM	0.068MF 5% 50V	CN129	* 1-564-521-11	PLUG, CONNECTOR 6P	
C152	1-126-964-11	ELECT	10MF 20% 50V	CN130	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P	
C153	1-137-367-11	FILM	0.0033MF 5% 50V	CN131	* 1-691-914-11	CONNECTOR, BOARD TO BOARD 15P	
C154	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN134	* 1-564-521-11	PLUG, CONNECTOR 6P (KV-32S12/32S16/32V16)	
C155	1-126-964-11	ELECT	10MF 20% 50V	CN137	1-750-394-11	PIN, CONNECTOR (STAKING) 32P	
C156	1-163-135-00	CERAMIC CHIP	560PF 5% 50V	CN138	* 1-564-512-11	PLUG, CONNECTOR 9P	
C157	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN163	* 1-564-508-11	PLUG, CONNECTOR 5P (KV-32S12/32S16/32V16)	
C158	1-124-903-11	ELECT	1MF 20% 50V	CN168	1-564-505-11	PLUG, CONNECTOR 2P	
C160	1-124-903-11	ELECT	1MF 20% 50	<DIODE>			
C201	1-163-017-00	CERAMIC CHIP	0.0047MF 10% 50V	D001	8-719-404-46	DIODE MA110	
C202	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	D002	8-719-404-46	DIODE MA110	
C203	1-163-989-11	CERAMIC CHIP	0.033MF 10% 25V	D004	8-719-404-46	DIODE MA110	
C204	1-126-933-11	ELECT	100MF 20% 16V	D005	8-713-300-57	DIODE 1T33	
C205	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	D006	8-719-110-17	DIODE RD10ESB2	
C211	1-163-989-11	CERAMIC CHIP	0.033MF 10% 25V	D007	8-719-110-17	DIODE RD10ESB2	
C212	1-124-902-00	ELECT	0.47MF 20% 50V	D008	8-719-110-17	DIODE RD10ESB2	
C213	1-124-902-00	ELECT	0.47MF 20% 50V	D009	8-719-110-17	DIODE RD10ESB2	
C214	1-163-017-00	CERAMIC CHIP	0.0047MF 10% 50V	D150	8-719-404-46	DIODE MA110	
C216	1-104-665-11	ELECT	100MF 20% 25V	D201	8-719-404-46	DIODE MA110	

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
D202	8-719-404-46	DIODE MA110		R018	1-216-033-00	METAL GLAZE 220	5% 1/10W
D205	8-719-110-17	DIODE RD10ESB2		R019	1-216-033-00	METAL GLAZE 220	5% 1/10W
D206	8-719-110-17	DIODE RD10ESB2		R020	1-216-033-00	METAL GLAZE 220	5% 1/10W
D301	8-719-110-17	DIODE RD10ESB2		R021	1-216-073-00	METAL GLAZE 10K	5% 1/10W
D304	8-719-110-17	DIODE RD10ESB2		R022	1-216-073-00	METAL GLAZE 10K	5% 1/10W
D308	8-719-110-17	DIODE RD10ESB2		R023	1-216-033-00	METAL GLAZE 220	5% 1/10W
		<IC>		R025	1-216-033-00	METAL GLAZE 220	5% 1/10W
IC101	8-752-851-01	IC CXP80424-079S (KV-32S12/32S16/32V16)		R026	1-216-097-00	METAL GLAZE 100K	5% 1/10W
IC101	8-752-856-00	IC CXP80424-084S (KV-32TW67/32TW68)		R027	1-216-121-00	METAL GLAZE 1M	5% 1/10W
IC102	8-759-280-74	IC ST24C02CB1		R028	1-216-073-00	METAL GLAZE 10K	5% 1/10W
IC103	8-759-805-37	IC L78LR05D-MA		R029	1-216-065-00	METAL GLAZE 47K	5% 1/10W
IC150	8-759-328-12	IC Z8622812PSC		R030	1-216-073-00	METAL GLAZE 10K	5% 1/10W
IC201	8-759-090-21	IC TDA8424		R031	1-216-033-00	METAL GLAZE 220	5% 1/10W
IC202	8-759-983-69	IC LM358PS		R032	1-216-033-00	METAL GLAZE 220	5% 1/10W
IC301	8-752-059-67	IC CXA1465AS		R033	1-216-033-00	METAL GLAZE 220	5% 1/10W
		<CHIP CONDUCTOR>		R034	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR200	1-216-295-91	CONDUCTOR, CHIP (2012)		R035	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR201	1-216-295-91	CONDUCTOR, CHIP (2012)		R036	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR202	1-216-295-91	CONDUCTOR, CHIP (2012)		R037	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR205	1-216-295-91	CONDUCTOR, CHIP (2012)		R038	1-216-033-00	METAL GLAZE 220	5% 1/10W
		<COIL>		R039	1-216-295-91	CONDUCTOR, CHIP (2012)	
L001	1-410-470-11	INDUCTOR 10UH		R040	1-216-049-91	METAL GLAZE 1K	5% 1/10W
L002	1-408-414-00	INDUCTOR 27UH		R041	1-216-033-00	METAL GLAZE 220	5% 1/10W
		<TRANSISTOR>		R042	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q001	8-729-216-22	TRANSISTOR 2SA1162-G		R043	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q002	8-729-216-22	TRANSISTOR 2SA1162-G (KV-32TW67/32TW68)		R044	1-216-065-00	METAL GLAZE 47K	5% 1/10W
Q004	8-729-216-22	TRANSISTOR 2SA1162-G		R045	1-216-065-00	METAL GLAZE 47K	5% 1/10W
Q005	8-729-422-27	TRANSISTOR 2SD601A-Q		R046	1-216-065-00	METAL GLAZE 47K	5% 1/10W
Q151	8-729-422-27	TRANSISTOR 2SD601A-Q		R047	1-216-065-00	METAL GLAZE 47K	5% 1/10W
Q201	8-729-422-27	TRANSISTOR 2SD601A-Q		R048	1-216-073-00	METAL GLAZE 10K	5% 1/10W
Q301	8-729-216-22	TRANSISTOR 2SA1162-G		R049	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q302	8-729-216-22	TRANSISTOR 2SA1162-G		R050	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q308	8-729-422-27	TRANSISTOR 2SD601A-Q		R051	1-216-073-00	METAL GLAZE 10K	5% 1/10W
		<RESISTOR>		R052	1-216-065-00	METAL GLAZE 47K	5% 1/10W
R002	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R053	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R003	1-216-033-00	METAL GLAZE 220	5% 1/10W	R054	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R004	1-216-033-00	METAL GLAZE 220	5% 1/10W	R055	1-216-033-00	METAL GLAZE 220	5% 1/10W
R005	1-216-033-00	METAL GLAZE 220	5% 1/10W			(KV-32S12/32S16/32V16)	
R006	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R056	1-216-065-00	METAL GLAZE 47K	5% 1/10W
R007	1-216-033-00	METAL GLAZE 220	5% 1/10W	R057	1-216-065-00	METAL GLAZE 47K	5% 1/10W
R008	1-216-033-00	METAL GLAZE 220	5% 1/10W	R058	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R009	1-216-033-00	METAL GLAZE 220	5% 1/10W	R059	1-216-065-00	METAL GLAZE 47K	5% 1/10W
R011	1-216-033-00	METAL GLAZE 220	5% 1/10W	R060	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R012	1-216-033-00	METAL GLAZE 220	5% 1/10W	R062	1-216-057-00	METAL GLAZE 22K	5% 1/10W
R013	1-216-033-00	METAL GLAZE 220	5% 1/10W	R063	1-216-033-00	METAL GLAZE 220	5% 1/10W
R016	1-216-033-00	METAL GLAZE 220	5% 1/10W			(KV-32S12/32S16/32V16)	
R017	1-216-033-00	METAL GLAZE 220	5% 1/10W	R064	1-216-065-00	METAL GLAZE 47K	5% 1/10W
				R065	1-216-065-00	METAL GLAZE 47K	5% 1/10W
				R066	1-216-025-91	METAL GLAZE 100	5% 1/10W
				R067	1-216-025-91	METAL GLAZE 100	5% 1/10W
				R069	1-216-033-00	METAL GLAZE 220	5% 1/10W
						(KV-32S12/32S16/32V16)	
				R070	1-216-049-91	METAL GLAZE 1K	5% 1/10W
						(KV-32S12/32S16/32V16)	
				R071	1-216-049-91	METAL GLAZE 1K	5% 1/10W
						(KV-32S12/32S16/32V16)	
				R074	1-216-295-91	CONDUCTOR, CHIP (2012)	

REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
R075	1-216-295-91	CONDUCTOR, CHIP	(2012)	R304	1-216-039-00	METAL GLAZE	390 5% 1/10W
R076	1-216-295-91	CONDUCTOR, CHIP	(2012)	R305	1-216-039-00	METAL GLAZE	390 5% 1/10W
R078	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R306	1-216-057-00	METAL GLAZE	2 2K 5% 1/10W
R079	1-216-295-91	CONDUCTOR, CHIP	(2012)	R312	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R080	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R082	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R313	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R083	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R321	1-216-025-91	METAL GLAZE	100 5% 1/10W
R086	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R323	1-216-041-00	METAL GLAZE	470 5% 1/10W
				R324	1-216-025-91	METAL GLAZE	100 5% 1/10W
R087	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R327	1-208-784-11	METAL CHIP	1 2K 0 50% 1/10W
R089	1-216-083-00	METAL GLAZE	27K 5% 1/10W				
			(KV-32TW67/32TW68)	R328	1-216-033-00	METAL GLAZE	220 5% 1/10W
R090	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R329	1-216-033-00	METAL GLAZE	220 5% 1/10W
			(KV-32TW67/32TW68)	R330	1-216-295-91	CONDUCTOR, CHIP	(2012)
R091	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R331	1-216-678-11	METAL CHIP	13K 0 50% 1/10W
R092	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R332	1-216-057-00	METAL GLAZE	2 2K 5% 1/10W
R093	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R333	1-216-025-91	METAL GLAZE	100 5% 1/10W
			(KV-32S12/32S16/32V16)	R334	1-216-687-11	METAL CHIP	33K 0 50% 1/10W
R093	1-216-295-91	CONDUCTOR, CHIP	(2012)	R335	1-216-121-00	METAL GLAZE	1M 5% 1/10W
			(KV-32TW67/32TW68)	R336	1-216-295-91	CONDUCTOR, CHIP	(2012)
R150	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R337	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R151	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R152	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R338	1-249-417-11	CARBON	1K 5% 1/4W F
				R339	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R153	1-216-069-00	METAL GLAZE	6 8K 5% 1/10W	R340	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R154	1-216-041-00	METAL GLAZE	470 5% 1/10W	R341	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R155	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R342	1-216-295-91	CONDUCTOR, CHIP	(2012)
R156	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R157	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R343	1-216-053-00	METAL GLAZE	1 5K 5% 1/10W
				R344	1-216-043-91	METAL GLAZE	560 5% 1/10W
R158	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R345	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R159	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R346	1-216-071-00	METAL GLAZE	8 2K 5% 1/10W
R160	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R347	1-249-409-11	CARBON	220 5% 1/4W F
R161	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R162	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	R348	1-216-097-00	METAL GLAZE	100K 5% 1/10W
				R349	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R163	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	R351	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W
R164	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	R352	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R165	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	R354	1-216-033-00	METAL GLAZE	220 5% 1/10W
R166	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R168	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R356	1-216-295-91	CONDUCTOR, CHIP	(2012)
				R374	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R375	1-216-033-00	METAL GLAZE	220 5% 1/10W
R201	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R202	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R203	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R204	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R205	1-216-295-91	CONDUCTOR, CHIP	(2012)				
R206	1-216-295-91	CONDUCTOR, CHIP	(2012)				
R207	1-216-085-00	METAL GLAZE	33K 5% 1/10W	X001	1-567-775-11	VIBRATOR, CERAMIC	
R208	1-216-089-00	METAL GLAZE	47K 5% 1/10W	X301	1-567-505-11	OSCILLATOR, CRYSTAL	
R209	1-216-085-00	METAL GLAZE	33K 5% 1/10W				
R210	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R211	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R212	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R213	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R218	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R219	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R220	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R222	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R223	1-216-045-00	METAL GLAZE	680 5% 1/10W				
R301	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R302	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R303	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W				


D


Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.













REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
C501	1-126-942-61	ELECT	1000MF 20% 25V	C614	1-164-625-11	CERAMIC	680PF 10% 500V
C502	1-162-131-11	CERAMIC	220PF 10% 2KV	C616	1-126-964-11	ELECT	10MF 20% 50V
C503	1-126-942-61	ELECT	1000MF 20% 25V	C617	1-126-953-11	ELECT	2200MF 20% 35V
C504	1-137-366-11	FILM	0 0022MF 5% 50V	C618	1-126-942-61	ELECT	1000MF 20% 25V
C505	1-128-551-11	ELECT	22MF 20% 25V	C619	1-126-952-11	ELECT	1000MF 20% 16V
C506	1-128-560-11	ELECT	22MF 20% 100V	C620	1-164-644-11	CERAMIC	330PF 10% 500V
C509	1-128-551-11	ELECT	22MF 20% 25V	C621	1-126-356-11	ELECT	220MF 20% 160V
C510	1-106-387-00	MYLAR	0 068MF 10% 200V	C623	1-102-030-00	CERAMIC	330PF 10% 500V
C511	1-123-024-21	ELECT	33MF 160V	C624	1-136-155-00	FILM	0 015MF 5% 50V
C512	1-102-212-00	CERAMIC	820PF 10% 500V	C625	1-129-719-00	FILM	0 027MF 10% 400V
C513	1-102-212-00	CERAMIC	820PF 10% 500V	C626	1-104-665-11	ELECT	100MF 20% 25V
C514	1-102-244-00	CERAMIC	220PF 10% 500V	C634	1-165-127-11	CERAMIC	470PF 10% 500V
C515	1-106-367-00	MYLAR	0 01MF 10% 100V	C635	1-126-967-11	ELECT	47MF 20% 16V
C517	1-162-116-00	CERAMIC	680PF 10% 2KV	C636	1-137-374-11	FILM	0 047MF 5% 50V
C518	1-162-116-00	CERAMIC	680PF 10% 2KV	C637	1-128-551-11	ELECT	22MF 20% 25V
C519 Δ	1-104-771-11	FILM	0 02MF 3% 2KV	C639	1-161-740-00	CERAMIC	470PF 10% 400V
C520 Δ	1-162-134-91	CERAMIC	470PF 10% 2KV	C641	1-126-933-11	ELECT	100MF 20% 10V
C521 Δ	1-136-316-51	FILM	0 056MF 5% 630V	C642	1-137-217-11	FILM	0 01MF 5% 0
C522	1-106-383-00	MYLAR	0 047MF 10% 200V	C643	1-137-218-11	FILM	0 012MF 5% 0
C523	1-102-002-00	CERAMIC	680PF 10% 500V	C645	1-102-125-00	CERAMIC	0 0047MF 10% 50V
C524	1-102-212-00	CERAMIC	820PF 10% 500V	C646	1-126-933-11	ELECT	100MF 20% 16V
C525	1-124-902-00	ELECT	0 47MF 20% 50V	C647	1-128-551-11	ELECT	22MF 20% 25V
C526	1-106-395-00	MYLAR	0 15MF 10% 200V	C684	1-124-667-11	ELECT	10MF 20% 50V
C527	1-109-956-11	ELECT	1MF 20% 200V	C695	1-126-964-11	ELECT	10MF 20% 50V
C528	1-136-113-00	FILM	2MF 5% 200V	C2205	1-124-925-11	ELECT	2 2MF 20% 50V
C529	1-106-343-00	MYLAR	0 001MF 10% 100V	C2208	1-124-925-11	ELECT	2 2MF 20% 50V
C530	1-104-770-11	FILM	0 62MF 5% 200V	C2210	1-104-666-11	ELECT	220MF 20% 25V
C531	1-104-664-11	ELECT	47MF 20% 25V	C2211	1-104-664-11	ELECT	47MF 20% 25V
C532	1-136-165-00	FILM	0 1MF 5% 50V	C2212	1-104-666-11	ELECT	220MF 20% 25V
C533	1-124-927-11	ELECT	4 7MF 20% 50V	C2213	1-136-173-00	FILM	0 47MF 5% 50V
C534	1-136-161-00	FILM	0 047MF 5% 50V	C2215	1-136-169-00	FILM	0 22MF 5% 50V
C535	1-126-969-11	ELECT	220MF 20% 50V	C2216	1-126-941-11	ELECT	470MF 20% 25V
C536	1-108-702-11	MYLAR	0 068MF 10% 100V	C2217	1-136-169-00	FILM	0 22MF 5% 50V
C537	1-126-964-11	ELECT	10MF 20% 50V	C2218	1-126-942-61	ELECT	1000MF 20% 25V
C538	1-136-161-00	FILM	0 047MF 5% 50V	C2219	1-126-942-61	ELECT	1000MF 20% 25V
C540	1-137-366-11	FILM	0 0022MF 5% 50V	C2220	1-124-925-11	ELECT	2 2MF 20% 50V
C541	1-137-366-11	FILM	0 0022MF 5% 50V	<CONNECTOR>			
C542	1-130-481-00	FILM	0 0068MF 5% 50V	CN104	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P
C545	1-124-927-11	ELECT	4 7MF 20% 50V	CN105	* 1-508-768-00	PIN, CONNECTOR (5MM PITCH)	6P
C547	1-164-079-11	CERAMIC	330PF 10% 50V	CN107	* 1-580-798-11	CONNECTORPIN (DY)	6P
C548 Δ	1-162-116-91	CERAMIC	680PF 10% 2KV	CN108	* 1-573-296-21	CONNECTOR, BOARD TO BOARD	10P
C553	1-164-079-11	CERAMIC	330PF 10% 50V	CN109	* 1-573-296-21	CONNECTOR, BOARD TO BOARD	10P
C561	1-162-815-11	CERAMIC	47PF 5% 500V	CN113	* 1-508-765-00	PIN, CONNECTOR (5MM PITCH)	3P
C595	1-107-635-11	ELECT	4 7MF 20% 160V	CN114	* 1-580-843-11	PIN, CONNECTOR (POWER)	
C598	1-109-959-91	ELECT	3 3MF 20% 160V	CN115	1-573-298-21	CONNECTOR, BOARD TO BOARD	20P
C600	1-126-964-11	ELECT	10MF 20% 50V	CN116	* 1-691-915-11	CONNECTOR, BOARD TO BOARD	15P
C601 Δ	1-136-311-51	FILM	0 47MF 20% 125V	CN117	1-573-978-21	CONNECTOR, BOARD TO BOARD	11P
C602 Δ	1-136-311-51	FILM	0 47MF 20% 125V	<DIODE>			
C604 Δ	1-162-578-81	CERAMIC	0 0047MF 20% 400V	D501	8-719-028-72	DIODE RGP02-17EL-6433	
C607	1-125-735-11	ELECT	470MF 20% 200V	D502	8-719-979-85	DIODE EGP20G-PKG23	
C608	1-125-735-11	ELECT	470MF 20% 200V	D503	8-719-979-85	DIODE EGP20G-PKG23	
C609	1-137-378-11	FILM	0 22MF 5% 50V	D504 Δ	8-719-302-44	DIODE EL1Z	
C610	1-136-169-00	FILM	0 22MF 5% 50V	D505	8-719-302-43	DIODE EL1Z	
C611	1-136-169-00	FILM	0 22MF 5% 50V				
C612	1-136-169-00	FILM	0 22MF 5% 50V				
C613	1-164-625-11	CERAMIC	680PF 10% 500V				

D

• The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

REF. NO	PART NO	DESCRIPTION	REMARK			REF. NO	PART NO	DESCRIPTION	REMARK		
R509	1-249-389-11	CARBON	47	5%	1/4W F	R625	1-249-377-11	CARBON	0.47	5%	1/4W F
 R511 		CARBON			1/4W	R627	1-249-377-11	CARBON	0.47	5%	1/4W F
R512	1-249-389-11	CARBON	47	5%	1/4W F	R628	1-249-377-11	CARBON	0.47	5%	1/4W F
R513	1-216-385-11	METAL OXIDE	0.47	5%	3W F	R629	1-249-388-11	CARBON	3.9	5%	1/4W F
R514	1-249-429-11	CARBON	10K	5%	1/4W	R630	1-215-857-11	METAL OXIDE	10	5%	1W F
R516	1-249-401-11	CARBON	47	5%	1/4W	R632	1-249-417-11	CARBON	1K	5%	1/4W F
R517	1-215-892-11	METAL OXIDE	1K	5%	2W F	R633	1-249-405-11	CARBON	100	5%	1/4W F
R518	1-215-892-11	METAL OXIDE	1K	5%	2W F	R635	1-249-413-11	CARBON	470	5%	1/4W F
R519	1-249-426-11	CARBON	5.6K	5%	1/4W F	R636	1-249-383-11	CARBON	1.5	5%	1/4W F
R520	1-249-423-11	CARBON	3.3K	5%	1/4W	R637	1-249-421-11	CARBON	2.2K	5%	1/4W
R521	1-249-411-11	CARBON	330	5%	1/4W	R638	1-249-423-11	CARBON	3.3K	5%	1/4W
R522	1-215-886-11	METAL OXIDE	100	5%	2W F	R639	1-249-423-11	CARBON	3.3K	5%	1/4W
R523	1-215-862-11	METAL OXIDE	68	5%	1W F	 R640 	1-202-730-91	SOLID	8.2M	20%	1/2W
 R524 		CARBON			1/4W	R643	1-216-399-00	METAL OXIDE	6.8	5%	3W F
R526	1-247-887-00	CARBON	220K	5%	1/4W	 R644 	1-212-853-61	FUSIBLE	6.8	5%	1/4W F
R527	1-215-861-00	METAL OXIDE	47	5%	1W F	R645	1-249-377-11	CARBON	0.47	5%	1/4W F
R528	1-247-750-11	CARBON	680	5%	1/2W F	R646	1-249-429-11	CARBON	10K	5%	1/4W
R530	1-215-445-00	METAL	10K	1%	1/4W	R647	1-247-863-91	CARBON	22K	5%	1/4W
R531	1-247-903-00	CARBON	1M	5%	1/4W	R648	1-249-414-11	CARBON	560	5%	1/4W
R532	1-215-446-00	METAL	11K	1%	1/4W	R649	1-216-431-11	METAL OXIDE	560	5%	1W F
R534	1-249-385-11	CARBON	2.2	5%	1/4W F	R650	1-249-405-11	CARBON	100	5%	1/4W F
R535	1-216-453-00	METAL OXIDE	270	5%	2W F	R653	1-249-381-11	CARBON	1	5%	1/4W
R536	1-249-389-11	CARBON	47	5%	1/4W F	R654	1-216-385-11	METAL OXIDE	0.47	5%	3W F
R539	1-215-459-00	METAL	39K	1%	1/4W	R655	1-249-417-11	CARBON	1K	5%	1/4W F
R543	1-249-419-11	CARBON	1.5K	5%	1/4W	R656	1-249-381-11	CARBON	1	5%	1/4W
R546	1-249-431-11	CARBON	15K	5%	1/4W	R657	1-249-417-11	CARBON	1K	5%	1/4W
R547	1-247-883-00	CARBON	150K	5%	1/4W	R658	1-249-389-11	CARBON	4.7	5%	1/4W F
R554	1-216-371-00	METAL OXIDE	1.5	5%	2W F	R659	1-247-883-00	CARBON	150K	5%	1/4W
R556	1-249-411-11	CARBON	330	5%	1/4W	R660	1-247-863-91	CARBON	22K	5%	1/4W
R557	1-249-415-11	CARBON	680	5%	1/4W F	R661	1-249-406-11	CARBON	120	5%	1/4W
R561	1-249-429-11	CARBON	10K	5%	1/4W	R662	1-249-393-11	CARBON	10	5%	1/4W
R562	1-215-437-00	METAL	4.7K	1%	1/4W	R663	1-247-737-11	CARBON	68	5%	1/2W F
R563	1-249-429-11	CARBON	10K	5%	1/4W	R689	1-215-861-00	METAL OXIDE	47	5%	1W F (KV-32V16)
R564	1-247-863-91	CARBON	22K	5%	1/4W	R690	1-249-423-11	CARBON	3.3K	5%	1/4W
R566	1-249-435-11	CARBON	33K	5%	1/4W	R691	1-249-423-11	CARBON	3.3K	5%	1/4W
R580	1-249-411-11	CARBON	330	5%	1/4W	R693	1-216-371-00	METAL OXIDE	1.5	5%	2W F
 R602 	1-202-723-91	SOLID	2.2M	20%	1/2W	R699	1-216-492-11	METAL OXIDE	82K	5%	3W F
R603	1-249-419-11	CARBON	1.5K	5%	1/4W	R2209	1-249-427-11	CARBON	6.8K	5%	1/4W
R605	1-247-893-11	CARBON	390K	5%	1/4W	R2210	1-249-435-11	CARBON	33K	5%	1/4W
R606	1-247-893-11	CARBON	390K	5%	1/4W	R2211	1-249-427-11	CARBON	6.8K	5%	1/4W
 R607 	1-202-933-61	FUSIBLE	0.1	10%	1/2W F	R2212	1-249-435-11	CARBON	33K	5%	1/4W
R608	1-215-860-11	METAL OXIDE	33	5%	1W F	R2215	1-249-425-11	CARBON	4.7K	5%	1/4W
R609	1-216-349-00	METAL OXIDE	1	5%	1W F	R2216	1-249-437-11	CARBON	47K	5%	1/4W
R610	1-216-369-00	METAL OXIDE	1	5%	2W F	R2217	1-249-435-11	CARBON	33K	5%	1/4W
R611	1-216-492-11	METAL OXIDE	82K	5%	3W F	R2218	1-249-441-11	CARBON	100K	5%	1/4W
R613	1-215-883-11	METAL OXIDE	33	5%	2W F	R2219	1-249-413-11	CARBON	470	5%	1/4W
R614	1-215-883-11	METAL OXIDE	33	5%	2W F	R2220	1-249-430-11	CARBON	12K	5%	1/4W
R615	1-249-421-11	CARBON	2.2K	5%	1/4W	R2221	1-249-430-11	CARBON	12K	5%	1/4W
R616	1-249-417-11	CARBON	1K	5%	1/4W	R2222	1-249-398-11	CARBON	27	5%	1/4W
R617	1-249-377-11	CARBON	0.47	5%	1/4W F	R2223	1-249-418-11	CARBON	1.2K	5%	1/4W
R618	1-249-377-11	CARBON	0.47	5%	1/4W F	R2224	1-249-418-11	CARBON	1.2K	5%	1/4W
R619	1-249-377-11	CARBON	0.47	5%	1/4W F	R2225	1-249-398-11	CARBON	27	5%	1/4W
R621	1-249-377-11	CARBON	0.47	5%	1/4W F	R2226	1-249-385-11	CARBON	2.2	5%	1/4W F
R622	1-249-377-11	CARBON	0.47	5%	1/4W F	R2227	1-249-385-11	CARBON	2.2	5%	1/4W F
R623	1-249-377-11	CARBON	0.47	5%	1/4W F	R2228	1-249-421-11	CARBON	2.2K	5%	1/4W
R624	1-249-377-11	CARBON	0.47	5%	1/4W F	R2229	1-249-421-11	CARBON	2.2K	5%	1/4W

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

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REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
<RELAY>				D1004	1-810-039-31	LED UNIT	
RY601 Δ	1-515-516-00	RELAY		<IC>			
RY602	1-515-516-00	RELAY		IC1001	8-741-818-51	ELEMENT, RAY-CATCHER	SBX1818-51
<SWITCH>				<JACK>			
S501	1-572-707-11	SWITCH, LEVER		J1001	1-695-585-11	JACK BLOCK, PIN (LTYPE) 3P	
S502	1-572-707-11	SWITCH, LEVER		<CHIP CONDUCTOR>			
<TRANSFORMER>				JR1090	1-216-295-91	CONDUCTOR, CHIP	(2012)
T501 Δ	1-453-146-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)		JR1092	1-216-295-91	CONDUCTOR, CHIP	(2012)
T502 Δ	1-437-195-21	TRANSFORMER, HORIZONTAL DRIVE		<TRANSISTOR>			
T503 Δ	1-424-545-22	TRANSFORMER, FERRITE (PMT)		Q1001	8-729-216-22	TRANSISTOR	2SA1162-G (KV-32V16)
T601 Δ	1-423-593-11	TRANSFORMER, LINE FILTER (LFT)		Q1002	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-32V16)
T602 Δ	1-424-220-21	TRANSFORMER, LINE FILTER		Q1003	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-32S12/32S16/32V16)
T603 Δ	1-423-563-11	TRANSFORMER, CONVERTER DRIVE		<RESISTOR>			
T604 Δ	1-423-615-11	TRANSFORMER, CONVERTER (PIT)		R1001	1-247-804-11	CARBON	75 5% 1/4W
T605	1-426-669-11	TRANSFORMER, CONVERTER (SBT)		R1002	1-249-425-11	CARBON	47K 5% 1/4W
<THERMISTOR>				R1003	1-216-113-00	METAL GLAZE	470K 5% 1/10W
THP601 Δ	1-809-539-11	THERMISTOR, POSITIVE		R1004	1-249-425-11	CARBON	47K 5% 1/4W
<VARISTOR>				R1005	1-216-113-00	METAL GLAZE	470K 5% 1/10W
VDR601	1-807-288-11	VARISTOR		R1007	1-216-073-00	METAL GLAZE	10K 5% 1/10W
VDR602	1-810-053-11	VARISTOR		R1008	1-216-025-91	METAL GLAZE	100 5% 1/10W
VDR603	1-810-053-11	VARISTOR		R1009	1-216-065-00	METAL GLAZE	47K 5% 1/10W
*****				R1010	1-216-055-00	METAL GLAZE	18K 5% 1/10W
* A-1372-020-A H BOARD, COMPLETE (KV-32TW67/32TW68)				R1011	1-216-025-91	METAL GLAZE	100 5% 1/10W
*****				R1012	1-216-049-91	METAL GLAZE	1K 5% 1/10W
* A-1371-994-A H BOARD, COMPLETE (KV-32S12/32S16)				R1013	1-216-033-00	METAL GLAZE	220 5% 1/10W (KV-32TW67/32TW68)
*****				R1014	1-216-047-00	METAL GLAZE	820 5% 1/10W
* A-1371-998-A H BOARD, COMPLETE (KV-32V16)				R1015	1-216-033-00	METAL GLAZE	220 5% 1/10W
*****				R1016	1-216-033-00	METAL GLAZE	220 5% 1/10W (KV-32V16)
<CAPACITOR>				R1017	1-216-105-91	METAL GLAZE	220K 5% 1/10W (KV-32V16)
C1001	1-124-248-00	ELECT	22MF 20% 25V	R1018	1-216-089-00	METAL GLAZE	47K 5% 1/10W (KV-32V16)
C1002	1-126-160-11	ELECT	1MF 20% 50V	R1019	1-216-025-91	METAL GLAZE	100 5% 1/10W (KV-32V16)
C1003	1-126-160-11	ELECT	1MF 20% 50V	R1021	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-32S12/32S16/32V16)
C1004	1-124-584-00	ELECT	100MF 20% 10V	<SWITCH>			
C1010	1-124-465-00	ELECT	0.47MF 20% 50V (KV-32V16)	S1001	1-571-532-21	SWITCH, TACTIL	
<CONNECTOR>				S1002	1-571-532-21	SWITCH, TACTIL	
CN154	* 1-564-520-11	PLUG, CONNECTOR 5P		S1003	1-571-532-21	SWITCH, TACTIL	
CN155	1-564-524-11	PLUG, CONNECTOR 9P		S1004	1-571-532-21	SWITCH, TACTIL	
CN156	* 1-564-518-11	PLUG, CONNECTOR 3P (KV-32TW67/32TW68/32V16)		S1005	1-571-532-21	SWITCH, TACTIL	
<DIODE>				S1006	1-571-532-21	SWITCH, TACTIL	
				S1007 Δ	1-571-532-21	SWITCH, TACTIL	



REF. NO	PART NO	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
*****				D920	8-719-404-46	DIODE MA110	
* A-1390-410-A L BOARD, COMPLETE (KV-32V16)				<JACK>			
*****				J901	1-764-873-11	JACK	
				J902	1-764-874-11	JACK	
				<CHIP CONDUCTOR>			
<CAPACITOR>				JR901	1-216-295-91	CONDUCTOR, CHIP	(2012)
C1902	1-164-004-11	CERAMICCHIP 0 1MF 10% 25V		JR902	1-216-295-91	CONDUCTOR, CHIP	(2012)
				JR903	1-216-295-91	CONDUCTOR, CHIP	(2012)
<CONNECTOR>				JR907	1-216-295-91	CONDUCTOR, CHIP	(2012)
CN1903	* 1-564-518-11	PLUG, CONNECTOR 3P		<TRANSISTOR>			
<IC>				Q901	8-729-422-27	TRANSISTOR 2SD601A-Q	
IC1903	8-759-189-86	IC IS455J		Q902	8-729-216-22	TRANSISTOR 2SA1162-G	
<RESISTOR>				Q903	8-729-216-22	TRANSISTOR 2SA1162-G	
R1901	1-216-133-00	METAL GLAZE 3 3M 5% 1/10W		Q904	8-729-422-27	TRANSISTOR 2SD601A-Q	
R1902	1-216-025-91	METAL GLAZE 100 5% 1/10W		Q905	8-729-422-27	TRANSISTOR 2SD601A-Q	
*****				Q906	8-729-422-27	TRANSISTOR 2SD601A-Q	
* A-1390-411-A Z BOARD, COMPLETE (KV-32V16)				Q907	8-729-216-22	TRANSISTOR 2SA1162-G	
*****				Q908	8-729-216-22	TRANSISTOR 2SA1162-G	
<CAPACITOR>				Q909	8-729-216-22	TRANSISTOR 2SA1162-G	
C901	1-124-903-11	ELECT 1MF 20% 50V		Q910	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
C902	1-124-903-11	ELECT 1MF 20% 50V		Q911	8-729-140-93	TRANSISTOR 2SB733-34	
C933	1-126-964-11	ELECT 10MF 20% 50V		Q912	8-729-216-22	TRANSISTOR 2SA1162-G	
C934	1-126-964-11	ELECT 10MF 20% 50V		<RESISTOR>			
<CONNECTOR>				R901	1-249-405-11	CARBON 100 5% 1/4WF	
CN901	* 1-564-520-11	PLUG, CONNECTOR 5P		R902	1-216-033-00	METAL GLAZE 220 5% 1/10W	
CN905	1-564-517-11	PLUG, CONNECTOR 2P		R903	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
<DIODE>				R904	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
D901	8-719-121-24	DIODE RD9 1ESL		R905	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
D902	8-719-404-46	DIODE MA110		R906	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
D903	8-719-404-46	DIODE MA110		R907	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
D904	8-719-109-93	DIODE RD6 2ESB2		R908	1-216-005-00	METAL GLAZE 15 5% 1/10W	
D905	8-719-109-66	DIODE RD3 3ESB2		R909	1-216-065-00	METAL GLAZE 47K 5% 1/10W	
D906	8-719-121-24	DIODE RD9 1ESL		R910	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D907	8-719-404-46	DIODE MA110		R911	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
D908	8-719-404-46	DIODE MA110		R912	1-216-057-00	METAL GLAZE 22K 5% 1/10W	
D909	8-719-404-46	DIODE MA110		R913	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
D910	8-719-404-46	DIODE MA110		R914	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
D911	8-719-404-46	DIODE MA110		R915	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
D912	8-719-404-46	DIODE MA110		R916	1-216-065-00	METAL GLAZE 47K 5% 1/10W	
				R917	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
				R918	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
				R919	1-216-057-00	METAL GLAZE 22K 5% 1/10W	
				R921	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
				R922	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R923	1-216-065-00	METAL GLAZE 47K 5% 1/10W	
				R924	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R925	1-216-041-00	METAL GLAZE 470 5% 1/10W	
				R926	1-216-025-91	METAL GLAZE 100 5% 1/10W	
				R927	1-216-097-00	METAL GLAZE 100K 5% 1/10W	

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
R928	1-216-097-00	METAL GLAZE	100K 5% 1/10W	CN146	1-573-300-21	CONNECTOR, BOARD TO BOARD 18P	
R929	1-249-405-11	CARBON	100 5% 1/4W F			(KV-32V16/32TW67/32TW68)	
R935	1-216-073-00	METAL GLAZE	10K 5% 1/10W	CN147	1-750-395-11	SOCKET, CONNECTOR 32P	
R936	1-216-089-00	METAL GLAZE	47K 5% 1/10W	CN148	1-564-517-11	PLUG, CONNECTOR 2P	
				CN149	* 1-564-519-11	PLUG, CONNECTOR 4P (KV-32V16)	
*****				<DIODE>			
* A-1394-415-A UA BOARD, COMPLETE (KV-32TW67/32TW68)				D401	8-719-110-17	DIODE RD10ESB2	
*****				D402	8-719-110-17	DIODE RD10ESB2	
* A-1394-529-A UA BOARD, COMPLETE (KV-32V16)				D403	8-719-110-17	DIODE RD10ESB2	
*****				D404	8-719-110-17	DIODE RD10ESB2	
* A-1394-676-A UA BOARD, COMPLETE (KV-32S12)				D405	8-719-110-17	DIODE RD10ESB2	
*****				D408	8-719-110-17	DIODE RD10ESB2	
<CAPACITOR>				D409	8-719-110-17	DIODE RD10ESB2 (KV-32S12/32V16)	
C401	1-163-031-11	CERAMICCHIP	0 01MF 50V	D410	8-719-110-17	DIODE RD10ESB2	
C402	1-128-551-11	ELECT	22MF 20% 25V	D411	8-719-110-17	DIODE RD10ESB2	
C405	1-128-551-11	ELECT	22MF 20% 25V	D429	8-719-110-17	DIODE RD10ESB2	
C406	1-124-903-11	ELECT	1MF 20% 50V	D430	8-719-110-17	DIODE RD10ESB2	
C407	1-124-903-11	ELECT	1MF 20% 50V	D431	8-719-110-17	DIODE RD10ESB2	
C408	1-128-551-11	ELECT	22MF 20% 25V	D436	8-719-110-17	DIODE RD10ESB2	
C409	1-124-903-11	ELECT	1MF 20% 50V	D437	8-719-110-17	DIODE RD10ESB2	
C410	1-124-903-11	ELECT	1MF 20% 50V	<IC>			
C412	1-128-551-11	ELECT	22MF 20% 25V	IC402	8-752-067-28	IC CXA1545AS	
C413	1-126-964-11	ELECT	10MF 20% 50V	<JACK>			
C414	1-109-889-11	ELECT	1MF 20% 50V	J401	1-750-515-11	TERMINAL BLOCK,S 3P	
C415	1-109-889-11	ELECT	1MF 20% 50V	J402	1-750-517-11	JACK BLOCK, PIN 3P	
C416	1-126-964-11	ELECT	10MF 20% 50V	J404	1-750-516-11	JACK BLOCK, PIN 2P	
C417	1-124-902-00	ELECT	0 47MF 20% 50V	<CHIP CONDUCTOR>			
C418	1-124-902-00	ELECT	0 47MF 20% 50V	JR402	1-216-295-91	CONDUCTOR, CHIP	(2012)
C420	1-163-031-11	CERAMICCHIP	0 01MF 50V	JR405	1-216-295-91	CONDUCTOR, CHIP	(2012) (KV-32S12/32V16)
C430	1-109-889-11	ELECT	1MF 20% 50V (KV-32V16)	JR408	1-216-295-91	CONDUCTOR, CHIP	(2012)
C431	1-109-889-11	ELECT	1MF 20% 50V (KV-32V16)	JR410	1-216-295-91	CONDUCTOR, CHIP	(2012)
C432	1-128-551-11	ELECT	22MF 20% 25V (KV-32V16)	JR411	1-216-295-91	CONDUCTOR, CHIP	(2012)
C433	1-104-663-11	ELECT	33MF 20% 25V	JR412	1-216-295-91	CONDUCTOR, CHIP	(2012)
C434	1-163-117-00	CERAMICCHIP	100PF 5% 50V	JR415	1-216-295-91	CONDUCTOR, CHIP	(2012)
C440	1-126-964-11	ELECT	10MF 20% 50V (KV-32TW67/32TW68)	JR416	1-216-295-91	CONDUCTOR, CHIP	(2012)
C441	1-126-967-11	ELECT	47MF 20% 16V	JR418	1-216-295-91	CONDUCTOR, CHIP	(2012)
C442	1-163-117-00	CERAMICCHIP	100PF 5% 50V (KV-32V16/32TW67/32TW68)	JR419	1-216-295-91	CONDUCTOR, CHIP	(2012)
C462	1-126-933-11	ELECT	100MF 20% 16V	JR422	1-216-295-91	CONDUCTOR, CHIP	(2012)
C470	1-126-967-11	ELECT	47MF 20% 16V	JR428	1-216-295-91	CONDUCTOR, CHIP	(2012)
C471	1-128-551-11	ELECT	22MF 20% 25V	JR429	1-216-295-91	CONDUCTOR, CHIP	(2012)
<FILTER BLOCK>				JR430	1-216-295-91	CONDUCTOR, CHIP	(2012)
CM401	1-467-554-21	FILTER BLOCK, COMB (KV-32S12/32V16)		JR431	1-216-295-91	CONDUCTOR, CHIP	(2012)
CM402	1-466-912-21	FILTER BLOCK, COMB (KV-32TW67/32TW68)		JR434	1-216-295-91	CONDUCTOR, CHIP	(2012)
<CONNECTOR>				JR498	1-216-295-91	CONDUCTOR, CHIP	(2012)
CN141	* 1-564-520-11	PLUG, CONNECTOR 5P		JR499	1-216-295-91	CONDUCTOR, CHIP	(2012)
CN142	1-564-517-11	PLUG, CONNECTOR 2P (KV-32S12/32V16)		JR901	1-216-295-91	CONDUCTOR, CHIP	(2012)
CN143	1-750-395-11	SOCKET, CONNECTOR 32P		(KV-32TW67/32TW68)			
CN144	* 1-564-521-11	PLUG, CONNECTOR 6P (KV-32V16)					

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO.	DESCRIPTION	REMARK
<COIL>				R458	1-216-033-00	METAL GLAZE	220 5% 1/10W
L401	1-410-473-11	INDUCTOR 18UH		R459	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
L403	1-410-476-11	INDUCTOR 33UH	(KV-32V16/32TW67/32TW68)	R460	1-216-037-00	METAL GLAZE	330 5% 1/10W (KV-32V16)
L404	1-410-669-31	INDUCTOR 33UH	(KV-32V16/32TW67/32TW68)				
<TRANSISTOR>				R461	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W (KV-32V16)
Q401	8-729-422-27	TRANSISTOR	2SD601A-Q	R462	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W (KV-32V16)
Q405	8-729-216-22	TRANSISTOR	2SA1162-G	R463	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-32V16)
Q406	8-729-216-22	TRANSISTOR	2SA1162-G	R464	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-32V16)
Q410	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-32V16)	R475	1-216-049-91	METAL GLAZE	1K 5% 1/10W (KV-32TW67/32TW68)
Q414	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-32TW67/32TW68)				
Q415	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-32V16)	R476	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
Q416	8-729-216-22	TRANSISTOR	2SA1162-G (KV-32V16)	R478	1-216-041-00	METAL GLAZE	470 5% 1/10W (KV-32V16/32TW67/32TW68)
Q417	8-729-216-22	TRANSISTOR	2SA1162-G (KV-32V16)	R479	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
Q418	8-729-216-22	TRANSISTOR	2SA1162-G (KV-32V16)	R480	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
				R481	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
<RESISTOR>				R482	1-249-417-11	CARBON	1K 5% 1/4W
R401	1-247-804-11	CARBON	75 5% 1/4W	R483	1-249-417-11	CARBON	1K 5% 1/4W
R402	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R488	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
R403	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R489	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16)
R404	1-247-804-11	CARBON	75 5% 1/4W	R490	1-216-295-91	CONDUCTOR, CHIP	(2012)
R405	1-216-113-00	METAL GLAZE	470K 5% 1/10W				
R406	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R491	1-216-295-91	CONDUCTOR, CHIP	(2012)
R407	1-247-804-11	CARBON	75 5% 1/4W	R492	1-216-295-91	CONDUCTOR, CHIP	(2012)
R408	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1438	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-32V16/32TW67/32TW68)
R409	1-216-113-00	METAL GLAZE	470K 5% 1/10W				
R410	1-249-425-11	CARBON	4 7K 5% 1/4W				
R411	1-249-425-11	CARBON	4 7K 5% 1/4W	*****			
R412	1-249-425-11	CARBON	4 7K 5% 1/4W	* A-1331-351-A C BOARD, COMPLETE			
R413	1-249-425-11	CARBON	4 7K 5% 1/4W	*****			
R414	1-247-804-11	CARBON	75 5% 1/4W	<CAPACITOR>			
R415	1-249-425-11	CARBON	4 7K 5% 1/4W	C700	1-102-074-00	CERAMIC	0 001MF 10% 50V
R416	1-216-647-11	METAL CHIP	680 0 5% 1/10W	C701	1-162-114-00	CERAMIC	0 0047MF 2KV
R417	1-216-645-11	METAL CHIP	560 0 5% 1/10W	C702	1-106-375-12	MYLAR	0 022MF 99% 200V
R421	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	C703	1-106-375-12	MYLAR	0 022MF 99% 200V
R425	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	C705	1-107-651-11	ELECT	4 7MF 20% 250V
R431	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R432	1-216-295-91	CONDUCTOR, CHIP	(2012)	C706	1-126-933-11	ELECT	100MF 20% 16V
R434	1-216-049-91	METAL GLAZE	1K 5% 1/10W	C707	1-102-129-00	CERAMIC	0 01MF 10% 50V
R435	1-216-295-91	CONDUCTOR, CHIP	(2012)	C711	1-164-083-11	CERAMIC	680PF 10% 50V
R439	1-216-049-91	METAL GLAZE	1K 5% 1/10W	C712	1-164-081-11	CERAMIC	470PF 10% 50V
R441	1-216-049-91	METAL GLAZE	1K 5% 1/10W	C731	1-164-083-11	CERAMIC	680PF 10% 50V
R442	1-216-025-91	METAL GLAZE	100 5% 1/10W (KV-32S12)	C732	1-164-081-11	CERAMIC	470PF 10% 50V
R443	1-216-025-91	METAL GLAZE	100 5% 1/10W (KV-32S12)	C751	1-164-083-11	CERAMIC	680PF 10% 50V
R444	1-216-095-00	METAL GLAZE	82K 5% 1/10W	C752	1-164-083-11	CERAMIC	680PF 10% 50V
R445	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R446	1-216-073-00	METAL GLAZE	10K 5% 1/10W	<CONNECTOR>			
R450	1-208-774-11	METAL CHIP	470 0 5% 1/10W	CN701	1-695-915-11	TAB (CONTACT)	
R451	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W	CN702	* 1-508-768-00	PIN, CONNECTOR (5MM PITCH)	6P
R452	1-216-025-91	METAL GLAZE	100 5% 1/10W (KV-32V16)	CN703	* 1-564-509-11	PLUG, CONNECTOR	6P
R453	1-216-645-11	METAL CHIP	560 0 5% 1/10W				
R454	1-216-295-91	CONDUCTOR, CHIP	(2012)	<DIODE>			
R456	1-216-041-00	METAL GLAZE	470 5% 1/10W (KV-32V16/32TW67/32TW68)	D711	8-719-911-19	DIODE 1SS119-25	
R457	1-216-033-00	METAL GLAZE	220 5% 1/10W	D712	8-719-911-19	DIODE 1SS119-25	

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



REF. NO	PART NO.	DESCRIPTION	REMARK
D731	8-719-911-19	DIODE 1SS119-25	
D732	8-719-911-19	DIODE 1SS119-25	
D751	8-719-911-19	DIODE 1SS119-25	
D752	8-719-911-19	DIODE 1SS119-25	
D770	8-719-911-19	DIODE 1SS119-25	
D771	8-719-911-19	DIODE 1SS119-25	
D772	8-719-911-19	DIODE 1SS119-25	
D773	8-719-911-19	DIODE 1SS119-25	
D777	8-719-109-72	DIODE RD3 9ESB2	
D790	8-719-911-19	DIODE 1SS119-25	
D791	8-719-911-19	DIODE 1SS119-25	
D792	8-719-911-19	DIODE 1SS119-25	
<JACK>			
J701	A 1-540-071-11	SOCKET PICTURE TUBE	
<COIL>			
L701	1-410-478-11	INDUCTOR 47UH	
<TRANSISTOR>			
Q711	8-729-326-11	TRANSISTOR 2SC2611	
Q712	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q731	8-729-326-11	TRANSISTOR 2SC2611	
Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q751	8-729-326-11	TRANSISTOR 2SC2611	
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q771	8-729-200-17	TRANSISTOR 2SA1091-O	
Q772	8-729-200-17	TRANSISTOR 2SA1091-O	
Q773	8-729-200-17	TRANSISTOR 2SA1091-O	
<RESISTOR>			
R700	1-247-739-11	CARBON 100 5% 1/2W	
R701	1-244-941-00	CARBON 680K 5% 1/2W	
R702	1-249-496-11	CARBON 100K 5% 1/2W	
R703	1-249-496-11	CARBON 100K 5% 1/2W	
R704	1-216-398-11	METAL OXIDE 5 6 5% 3W F	
R705	1-216-398-11	METAL OXIDE 5 6 5% 3W F	
R710	1-247-758-11	CARBON 3 3K 5% 1/2W	
R711	1-247-807-31	CARBON 100 5% 1/4W	
R712	1-215-924-00	METAL OXIDE 15K 5% 3W F	
R714	1-249-425-11	CARBON 4 7K 5% 1/4W	
R716	1-249-417-11	CARBON 1K 5% 1/4W	
R717	1-249-393-11	CARBON 10 5% 1/4W	
R718	1-249-413-11	CARBON 470 5% 1/4W	
R730	1-247-758-11	CARBON 3 3K 5% 1/2W	
R731	1-247-807-31	CARBON 100 5% 1/4W	
R732	1-215-924-00	METAL OXIDE 15K 5% 3W F	
R734	1-249-425-11	CARBON 4 7K 5% 1/4W	
R736	1-249-411-11	CARBON 330 5% 1/4W	
R737	1-249-393-11	CARBON 10 5% 1/4W	
R750	1-247-758-11	CARBON 3 3K 5% 1/2W	
R751	1-247-807-31	CARBON 100 5% 1/4W	

REF. NO	PART NO	DESCRIPTION	REMARK
R752	1-215-924-00	METAL OXIDE 15K 5% 3W F	
R754	1-249-425-11	CARBON 4 7K 5% 1/4W	
R756	1-249-411-11	CARBON 330 5% 1/4W	
R757	1-249-393-11	CARBON 10 5% 1/4W	
R770	1-247-863-91	CARBON 22K 5% 1/4W	
R771	1-249-409-11	CARBON 220 5% 1/4W F	
R772	1-249-409-11	CARBON 220 5% 1/4W F	
R773	1-249-409-11	CARBON 220 5% 1/4W F	
R774	1-249-437-11	CARBON 47K 5% 1/4W	
R775	1-249-417-11	CARBON 1K 5% 1/4W F	
R776	1-249-409-11	CARBON 220 5% 1/4W F	
R790	1-249-413-11	CARBON 470 5% 1/4W	
R791	1-249-412-11	CARBON 390 5% 1/4W	
<VARIABLE RESISTOR>			
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2 2M	

* A-1341-622-A E BOARD, COMPLETE			

1-508-765-00 PIN, CONNECTOR (5MM PITCH) 3P			
4-382-854-11 SCREW (M3X10), P, SW (+)			
<CAPACITOR>			
C1501	1-126-941-11	ELECT 470MF 20% 16V	
C1502	1-137-372-11	FILM 0 022MF 5% 50V	
C1503	1-102-234-00	CERAMIC 270PF 10% 500V	
C1504	1-136-165-00	FILM 0 1MF 5% 50V	
C1505	1-126-964-11	ELECT 10MF 20% 50V	
C1507	1-126-964-11	ELECT 10MF 20% 50V	
C1509	1-136-165-00	FILM 0 1MF 5% 50V	
C1510	1-137-370-11	FILM 0 01MF 5% 50V	
C1516	1-136-165-00	FILM 0 1MF 5% 50V	
C1519	1-136-104-00	FILM 0 16MF 5% 200V	
C1522	1-126-942-61	ELECT 1000MF 20% 16V	
C1523	1-136-177-00	FILM 1MF 5% 50V	
C1524	1-126-963-11	ELECT 4 7MF 20% 50V	
C1529	1-126-964-11	ELECT 10MF 20% 50V	
C1530	1-126-964-11	ELECT 10MF 20% 50V	
C1532	1-126-963-11	ELECT 4 7MF 20% 50V	
C1533	1-126-233-11	ELECT 22MF 20% 25V	
C1542	1-104-664-11	ELECT 47MF 20% 16V	
C1550	1-136-756-11	FILM 0 24MF 5% 200V	
<CONNECTOR>			
CN122	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P	
CN123	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P	
<DIODE>			
D1501	8-719-911-19	DIODE 1SS119-25	

REF. NO	PART NO.	DESCRIPTION	REMARK
D1502	8-719-801-35	THYRISTOR SH0R3D42(N)	
D1503	8-719-980-78	DIODE ERA83-006	
D1504	8-719-302-43	DIODE EL1Z	
D1505	8-719-911-19	DIODE 1SS119-25	
D1506	8-719-911-19	DIODE 1SS119-25	
D1507	8-719-911-19	DIODE 1SS119-25	
D1508	8-719-110-17	DIODE RD10ESB2	
D1509	8-719-110-17	DIODE RD10ESB2	
D1510	8-719-911-19	DIODE 1SS119-25	
D1513	8-719-302-43	DIODE EL1Z	
D1515	8-719-911-19	DIODE 1SS119-25	
D1516	8-719-987-87	DIODE ERA85-009	
D1517	8-719-911-19	DIODE 1SS119-25	
<IC>			
IC1501	8-752-052-88	IC CXA1526P	
IC1502	8-759-701-59	IC NJM78M09FA	
IC1504	8-759-135-80	IC UPC358C	
<COIL>			
L1502	1-459-592-11	COIL (WITH CORE) (PMC)	
L1504	1-459-474-11	COIL (WITH CORE)	
<TRANSISTOR>			
Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1502	8-729-140-96	TRANSISTOR 2SD774-34	
Q1503	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1507	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1508	8-729-140-93	TRANSISTOR 2SB733-34	
Q1509	8-729-140-93	TRANSISTOR 2SB733-34	
Q1511	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1514	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q1519	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1520	8-729-119-78	TRANSISTOR 2SC2785-HFE	
<RESISTOR>			
R1501	1-247-815-91	CARBON 220 5% 1/4W	
R1502	1-247-815-91	CARBON 220 5% 1/4W	
R1503	1-249-435-11	CARBON 33K 5% 1/4W	
R1504	1-249-429-11	CARBON 10K 5% 1/4W	
R1505	1-249-421-11	CARBON 2.2K 5% 1/4W	
R1506	1-249-423-11	CARBON 3.3K 5% 1/4W	
R1507	1-249-410-11	CARBON 270 5% 1/4W	
R1508	1-249-437-11	CARBON 47K 5% 1/4W	
R1509	1-249-429-11	CARBON 10K 5% 1/4W	
R1510	1-215-461-00	METAL 47K 1% 1/4W	
R1511	1-216-379-11	METAL OXIDE 68 5% 2W F	
R1513	1-249-423-11	CARBON 3.3K 5% 1/4W	
R1514	1-247-885-00	CARBON 180K 5% 1/4W	
R1515	1-215-905-11	METAL OXIDE 10 5% 3W F	
R1519	1-249-417-11	CARBON 1K 5% 1/4W	
R1520	1-249-417-11	CARBON 1K 5% 1/4W	

REF. NO	PART NO	DESCRIPTION	REMARK
R1522	1-249-417-11	CARBON 1K 5% 1/4W	
R1527	1-249-417-11	CARBON 1K 5% 1/4WF	
R1528	1-249-438-11	CARBON 56K 5% 1/4W	
R1529	1-249-434-11	CARBON 27K 5% 1/4W	
R1530	1-249-432-11	CARBON 18K 5% 1/4W	
R1533	1-249-427-11	CARBON 68K 5% 1/4W	
R1534	1-249-424-11	CARBON 3.9K 5% 1/4W	
R1535	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1536	1-215-857-11	METALOXIDE 10 5% 1W F	
R1537	1-249-404-00	CARBON 82 5% 1/4W	
R1538	1-216-379-11	METAL OXIDE 68 5% 2W F	
R1541	1-249-441-11	CARBON 100K 5% 1/4W	
R1543	1-249-414-11	CARBON 560 5% 1/4W	
R1546	1-215-885-00	METALOXIDE 68 5% 2W F	
R1552	1-249-426-11	CARBON 56K 5% 1/4W	
R1554	1-249-393-11	CARBON 10 5% 1/4W	
R1556	1-249-438-11	CARBON 56K 5% 1/4W	
R1559	1-249-429-11	CARBON 10K 5% 1/4W	
R1564	1-249-435-11	CARBON 33K 5% 1/4W	
R1568	1-247-891-00	CARBON 330K 5% 1/4W	
R1569	1-249-413-11	CARBON 470 5% 1/4W	
R1578	1-249-423-11	CARBON 3.3K 5% 1/4W	
R1582	1-249-411-11	CARBON 330 5% 1/4W	
R1583	1-249-421-11	CARBON 2.2K 5% 1/4W	
R1585	1-249-441-11	CARBON 100K 5% 1/4W	
R1586	1-247-891-00	CARBON 330K 5% 1/4W	

* A-1195-062-A P BOARD, COMPLETE			

(KV-32S16/32V16/32TW67/32TW68)			
<CAPACITOR>			
C3201	1-104-664-11	ELECT 47MF 20% 16V	
C3203	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C3204	1-126-964-11	ELECT 10MF 20% 50V	
C3205	1-126-964-11	ELECT 10MF 20% 50V	
C3206	1-126-964-11	ELECT 10MF 20% 50V	
C3207	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C3208	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C3209	1-126-962-11	ELECT 3.3MF 20% 50V	
C3210	1-104-664-11	ELECT 47MF 20% 16V	
C3212	1-126-962-11	ELECT 3.3MF 20% 50V	
C3213	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3214	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3215	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3216	1-164-005-11	CERAMIC CHIP 0.47MF 25V	
C3217	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3218	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3219	1-126-941-11	ELECT 470MF 20% 16V	
C3220	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3221	1-164-346-11	CERAMIC CHIP 1MF 16V	
C3222	1-164-336-11	CERAMIC CHIP 0.33MF 25V	



REF. NO	PART NO	DESCRIPTION	REMARK			REF. NO	PART NO	DESCRIPTION	REMARK		
C3223	1-164-336-11	CERAMIC CHIP	0 33MF		25V	C3282	1-164-346-11	CERAMIC CHIP	1MF		16V
C3224	1-164-222-11	CERAMIC CHIP	0 22MF		25V						
C3225	1-164-222-11	CERAMIC CHIP	0 22MF		25V			<CONNECTOR>			
C3226	1-164-005-11	CERAMIC CHIP	0 47MF		25V						
C3227	1-164-346-11	CERAMIC CHIP	1MF		16V	CN150	1-573-297-21	CONNECTOR, BOARD TO BOARD	18P		
C3228	1-163-117-00	CERAMIC CHIP	100PF	5%	50V			<DIODE>			
C3229	1-163-093-00	CERAMIC CHIP	10PF	5%	50V						
C3230	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	D3202	8-719-031-68	DIODE HVU359TRF			
C3231	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	D3203	8-719-404-46	DIODE MA110			
C3232	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	D3208	8-719-110-17	DIODE RD10ESB2			
						D3209	8-719-110-17	DIODE RD10ESB2			
C3233	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V			<IC>			
C3234	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	IC3200	8-759-288-13	IC MSM51C262-ZS			
C3235	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	IC3201	8-759-093-29	IC MB86144BPF-G-BND			
C3236	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	IC3202	8-759-093-28	IC MB40176PF-G-BND-EF			
C3237	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	IC3203	8-759-093-28	IC MB40176PF-G-BND-EF			
						IC3204	8-759-093-25	IC MB3512PFQ			
C3238	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	IC3205	8-759-243-19	IC TC7SU04F			
C3239	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V			<COIL>			
C3240	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	L3201	1-410-470-11	INDUCTOR 10UH			
C3241	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	L3202	1-408-424-00	INDUCTOR 180UH			
C3242	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	L3203	1-408-424-00	INDUCTOR 180UH			
						L3204	1-410-476-11	INDUCTOR 33UH			
C3243	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	L3205	1-410-470-11	INDUCTOR 10UH			
C3244	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	L3206	1-410-387-11	INDUCTOR 33UH			
C3245	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	L3207	1-410-387-11	INDUCTOR 33UH			
C3246	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	L3208	1-410-387-11	INDUCTOR 33UH			
C3247	1-163-033-91	CERAMIC CHIP	0 022MF		50V	L3209	1-410-387-11	INDUCTOR 33UH			
								<TRANSISTOR>			
C3248	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	Q3201	8-729-424-02	TRANSISTOR	2SA1162-G		
C3249	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	Q3202	8-729-424-02	TRANSISTOR	2SD601A-Q		
C3250	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	Q3203	8-729-424-02	TRANSISTOR	2SA1162-G		
C3251	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	Q3204	8-729-424-02	TRANSISTOR	2SA1162-G		
C3252	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	Q3206	8-729-424-02	TRANSISTOR	2SD601A-Q		
C3253	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	Q3207	8-729-424-02	TRANSISTOR	2SA1162-G		
C3254	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	Q3208	8-729-424-02	TRANSISTOR	2SD601A-Q		
C3255	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	Q3209	8-729-424-02	TRANSISTOR	2SA1162-G		
C3256	1-164-232-11	CERAMIC CHIP	0 01MF	10%	50V	Q3210	8-729-424-02	TRANSISTOR	2SA1162-G		
C3257	1-163-117-00	CERAMIC CHIP	100PF	5%	50V			<RESISTOR>			
C3258	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	R3201	1-216-097-00	METAL GLAZE	100K	5%	1/10W
C3259	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	R3202	1-216-073-00	METAL GLAZE	10K	5%	1/10W
C3260	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	R3203	1-216-025-91	METAL GLAZE	100	5%	1/10W
C3261	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	R3204	1-216-025-91	METAL GLAZE	100	5%	1/10W
C3263	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	R3205	1-216-121-00	METAL GLAZE	1M	5%	1/10W
C3264	1-165-319-11	CERAMIC CHIP	0 1MF		50V	R3207	1-216-295-91	CONDUCTOR, CHIP		(2012)	
C3265	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	R3208	1-216-097-00	METAL GLAZE	100K	5%	1/10W
C3266	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	R3209	1-216-079-00	METAL GLAZE	18K	5%	1/10W
C3267	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V	R3210	1-216-089-00	METAL GLAZE	47K	5%	1/10W
C3268	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V						
C3269	1-163-141-00	CERAMIC CHIP	0 001MF	5%	50V						
C3270	1-165-319-11	CERAMIC CHIP	0 1MF		50V						
C3271	1-165-319-11	CERAMIC CHIP	0 1MF		50V						
C3272	1-165-319-11	CERAMIC CHIP	0 1MF		50V						
C3273	1-163-109-00	CERAMIC CHIP	47PF	5%	50V						
C3274	1-163-101-00	CERAMIC CHIP	22PF	5%	50V						
C3275	1-163-101-00	CERAMIC CHIP	22PF	5%	50V						
C3276	1-163-111-00	CERAMIC CHIP	56PF	5%	50V						
C3277	1-163-101-00	CERAMIC CHIP	22PF	5%	50V						
C3278	1-163-101-00	CERAMIC CHIP	22PF	5%	50V						
C3279	1-163-141-00	CRAMIC CHIP	0 001MF	5%	50V						
C3280	1-126-964-11	ELECT	10MF	20%	50V						

P UA (KV-32S16 (US))

REF. NO	PART NO.	DESCRIPTION	REMARK
R3211	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3212	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3213	1-216-075-00	METAL GLAZE 12K	5% 1/10W
R3214	1-216-121-00	METAL GLAZE 1M	5% 1/10W
R3215	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3216	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3217	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3218	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3219	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3220	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3221	1-216-655-11	METAL CHIP 1 5K	0 50% 1/10W
R3222	1-216-655-11	METAL CHIP 1 5K	0 50% 1/10W
R3223	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3224	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3225	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3226	1-216-085-00	METAL GLAZE 33K	5% 1/10W
R3227	1-216-647-11	METAL CHIP 680	0 50% 1/10W
R3228	1-216-045-00	METAL GLAZE 680	5% 1/10W
R3229	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3230	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3231	1-216-001-00	METAL GLAZE 10	5% 1/10W
R3232	1-216-083-00	METAL GLAZE 27K	5% 1/10W
R3233	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3234	1-216-651-11	METAL CHIP 1K	0 50% 1/10W
R3235	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3236	1-216-065-00	METAL GLAZE 4 7K	5% 1/10W
R3237	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3238	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3239	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3241	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3242	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3243	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3244	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3245	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3246	1-216-069-00	METAL GLAZE 6 8K	5% 1/10W
R3247	1-216-063-00	METAL GLAZE 3 9K	5% 1/10W
R3248	1-216-295-91	CONDUCTOR, CHIP	(2012)
R3249	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3250	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3251	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3252	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3253	1-216-065-00	METAL GLAZE 4 7K	5% 1/10W
R3254	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3255	1-216-041-00	METAL GLAZE 470	5% 1/10W
R3256	1-216-043-91	METAL GLAZE 560	5% 1/10W
R3259	1-216-298-00	METAL GLAZE 2 2	5% 1/10W
R3260	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3263	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3264	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3265	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3266	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3267	1-216-055-00	METAL GLAZE 1 8K	5% 1/10W
R3268	1-216-053-00	METAL GLAZE 1 5K	5% 1/10W
R3269	1-216-057-00	METAL GLAZE 2 2K	5% 1/10W
R3270	1-216-657-11	METAL CHIP 1 8K	0 50% 1/10W
R3271	1-216-655-11	METAL CHIP 1 5K	0 50% 1/10W

REF. NO	PART NO.	DESCRIPTION	REMARK		
R3273	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3274	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3275	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3276	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3277	1-216-298-00	METAL GLAZE	2 2	5%	1/10W
<CRYSTAL>					
X3201	1-567-878-11	VIBRATOR, CRYSTAL			
X3202	1-567-878-11	VIBRATOR, CRYSTAL			

* A-1394-527-A		UA BOARD, COMPLETE (KV-32S16 US MODEL)			

<CAPACITOR>					
C401	1-163-031-11	CERAMIC CHIP	0 01MF		50V
C402	1-128-551-11	ELECT	22MF	20%	25V
C405	1-128-551-11	ELECT	22MF	20%	25V
C406	1-124-903-11	ELECT	1MF	20%	50V
C407	1-124-903-11	ELECT	1MF	20%	50V
C408	1-128-551-11	ELECT	22MF	20%	25V
C409	1-124-903-11	ELECT	1MF	20%	50V
C410	1-124-903-11	ELECT	1MF	20%	50V
C412	1-128-551-11	ELECT	22MF	20%	25V
C413	1-126-964-11	ELECT	10MF	20%	50V
C414	1-109-889-11	ELECT	1MF	20%	50V
C415	1-109-889-11	ELECT	1MF	20%	50V
C416	1-126-964-11	ELECT	10MF	20%	50V
C417	1-124-902-00	ELECT	0 47MF	20%	50V
C418	1-124-902-00	ELECT	0 47MF	20%	50V
C420	1-163-031-11	CERAMIC CHIP	0 01MF		50V
C433	1-104-663-11	ELECT	33MF	20%	25V
C434	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C441	1-126-967-11	ELECT	47MF	20%	16V
C442	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C462	1-126-933-11	ELECT	100MF	20%	16V
C470	1-126-967-11	ELECT	47MF	20%	16V
C471	1-128-551-11	ELECT	22MF	20%	25V
<FILTER BLOCK>					
CM401	1-467-554-21	FILTER BLOCK, COMB			
<CONNECTOR>					
CN141	* 1-564-520-11	PLUG, CONNECTOR 5P			
CN142	1-564-517-11	PLUG, CONNECTOR 2P			
CN143	1-750-395-11	SOCKET, CONNECTOR 32P			
CN146	1-573-300-21	CONNECTOR, BOARD TO BOARD 18P			
CN147	1-750-395-11	SOCKET, CONNECTOR 32P			
CN148	1-564-517-11	PLUG, CONNECTOR 2P			

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
		<DIODE>					
D401	8-719-110-17	DIODE RD10ESB2		Q406	8-729-422-27	TRANSISTOR	2SB709A-Q
D402	8-719-110-17	DIODE RD10ESB2		Q410	8-729-422-27	TRANSISTOR	2SD601A-Q
D403	8-719-110-17	DIODE RD10ESB2		Q415	8-729-422-27	TRANSISTOR	2SD601A-Q
D404	8-719-110-17	DIODE RD10ESB2					
D405	8-719-110-17	DIODE RD10ESB2		Q416	8-729-422-27	TRANSISTOR	2SB709A-Q
				Q417	8-729-422-27	TRANSISTOR	2SB709A-Q
				Q418	8-729-422-27	TRANSISTOR	2SB709A-Q
D408	8-719-110-17	DIODE RD10ESB2				<RESISTOR>	
D409	8-719-110-17	DIODE RD10ESB2					
D410	8-719-110-17	DIODE RD10ESB2		R401	1-247-408-11	CARBON	75 5% 1/4W
D411	8-719-110-17	DIODE RD10ESB2		R402	1-216-113-11	METAL GLAZE	470K 5% 1/10W
D429	8-719-110-17	DIODE RD10ESB2		R403	1-216-113-00	METAL GLAZE	470K 5% 1/10W
				R404	1-247-408-11	CARBON	75 5% 1/4W
D430	8-719-110-17	DIODE RD10ESB2		R405	1-216-113-00	METAL GLAZE	470K 5% 1/10W
D431	8-719-110-17	DIODE RD10ESB2					
D436	8-719-110-17	DIODE RD10ESB2		R406	1-216-113-00	METAL GLAZE	470K 5% 1/10W
D437	8-719-110-17	DIODE RD10ESB2		R407	1-247-804-11	CARBON	75 5% 1/4W
				R408	1-216-113-11	METAL GLAZE	470K 5% 1/10W
				R409	1-216-113-11	METAL GLAZE	470K 5% 1/10W
				R410	1-249-425-11	CARBON	4 7K 5% 1/4W
		<IC>		R411	1-249-425-11	CARBON	4 7K 5% 1/4W
IC402	8-752-067-28	IC CXA1545AS		R412	1-249-425-11	CARBON	4 7K 5% 1/4W
				R413	1-249-425-11	CARBON	4 7K 5% 1/4W
				R414	1-247-408-11	CARBON	75 5% 1/4W
				R415	1-249-425-11	CARBON	4 7K 5% 1/4W
		<JACK>		R416	1-216-647-11	METAL CHIP	680 0 5% 1/10W
J401	1-750-515-11	TERMINAL BLOCK,S 3P		R417	1-216-645-11	METAL CHIP	560 0 5% 1/10W
J402	1-750-517-11	JACK BLOCK, PIN 3P		R421	1-216-065-11	METAL GLAZE	4 7K 5% 1/10W
J404	1-750-516-11	JACK BLOCK, PIN 2P		R425	1-216-065-11	METAL GLAZE	4 7K 5% 1/10W
				R431	1-216-049-91	METAL GLAZE	1K 5% 1/10W
		<CHIP CONDUCTOR>		R432	1-216-295-91	CONDUCTOR, CHIP	(2012)
JR402	1-216-295-91	CONDUCTOR, CHIP	(2012)	R434	1-216-049-91	METAL GLAZE	1K 5% 1/10W
JR405	1-216-295-91	CONDUCTOR, CHIP	(2012)	R435	1-216-295-91	CONDUCTOR, CHIP	(2012)
JR408	1-216-295-91	CONDUCTOR, CHIP	(2012)	R439	1-216-049-91	METAL GLAZE	1K 5% 1/10W
JR410	1-216-295-91	CONDUCTOR, CHIP	(2012)	R441	1-216-049-91	METAL GLAZE	1K 5% 1/10W
JR411	1-216-295-91	CONDUCTOR, CHIP	(2012)				
				R444	1-216-095-00	METAL GLAZE	82K 5% 1/10W
JR412	1-216-295-91	CONDUCTOR, CHIP	(2012)	R445	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR415	1-216-295-91	CONDUCTOR, CHIP	(2012)	R446	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR416	1-216-295-91	CONDUCTOR, CHIP	(2012)	R450	1-208-774-11	METAL CHIP	470 0 5% 1/10W
JR418	1-216-295-91	CONDUCTOR, CHIP	(2012)	R451	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W
JR419	1-216-295-91	CONDUCTOR, CHIP	(2012)				
				R453	1-216-645-11	METAL CHIP	560 0 5% 1/10W
JR422	1-216-295-91	CONDUCTOR, CHIP	(2012)	R454	1-216-295-91	CONDUCTOR, CHIP	(2012)
JR428	1-216-295-91	CONDUCTOR, CHIP	(2012)	R456	1-216-041-11	METAL GLAZE	470 5% 1/10W
JR429	1-216-295-91	CONDUCTOR, CHIP	(2012)	R457	1-216-033-11	METAL GLAZE	220 5% 1/10W
JR430	1-216-295-91	CONDUCTOR, CHIP	(2012)	R458	1-216-033-11	METAL GLAZE	220 5% 1/10W
JR431	1-216-295-91	CONDUCTOR, CHIP	(2012)				
				R478	1-216-041-00	METAL GLAZE	470 5% 1/10W
JR434	1-216-295-91	CONDUCTOR, CHIP	(2012)	R482	1-249-417-11	CARBON	1K 5% 1/4W
JR498	1-216-295-91	CONDUCTOR, CHIP	(2012)	R483	1-249-417-11	CARBON	1K 5% 1/4W
JR499	1-216-295-91	CONDUCTOR, CHIP	(2012)	R490	1-216-295-91	CONDUCTOR, CHIP	(2012)
				R491	1-216-295-91	CONDUCTOR, CHIP	(2012)
		<COIL>		R492	1-216-295-91	CONDUCTOR, CHIP	(2012)
L401	1-410-473-11	INDUCTOR 18UH		R1438	1-216-081-00	METAL GLAZE	22K 5% 1/10W
L403	1-410-476-11	INDUCTOR 33UH					
L404	1-410-669-31	INDUCTOR 33UH					
		<TRANSISTOR>					
Q401	8-729-422-27	TRANSISTOR	2SD601A-Q				
Q405	8-729-422-27	TRANSISTOR	2SB709A-Q				

UA (KV-32S16 (Canadian))

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO.	DESCRIPTION	REMARK
* A-1394-544-A UA BOARD, COMPLETE (KV-32S16 Canadian MODEL)				JR412	1-216-295-91	CONDUCTOR, CHIP	(2012)
*****				JR415	1-216-295-91	CONDUCTOR, CHIP	(2012)
<CAPACITOR>				JR416	1-216-295-91	CONDUCTOR, CHIP	(2012)
C401	1-163-031-11	CERAMICCHIP	0 01MF 50V	JR418	1-216-295-91	CONDUCTOR, CHIP	(2012)
C402	1-128-551-11	ELECT	22MF 20% 25V	JR422	1-216-295-91	CONDUCTOR, CHIP	(2012)
C405	1-128-551-11	ELECT	22MF 20% 25V	JR423	1-216-295-91	CONDUCTOR, CHIP	(2012)
C409	1-124-903-11	ELECT	1MF 20% 50V	JR424	1-216-295-91	CONDUCTOR, CHIP	(2012)
C410	1-124-903-11	ELECT	1MF 20% 50V	JR428	1-216-295-91	CONDUCTOR, CHIP	(2012)
C411	1-104-665-11	ELECT	100MF 20% 25V	JR429	1-216-295-91	CONDUCTOR, CHIP	(2012)
C412	1-128-551-11	ELECT	22MF 20% 25V	JR430	1-216-295-91	CONDUCTOR, CHIP	(2012)
C413	1-126-964-11	ELECT	10MF 20% 50V	JR431	1-216-295-91	CONDUCTOR, CHIP	(2012)
C414	1-109-889-11	ELECT	1MF 20% 50V	JR434	1-216-295-91	CONDUCTOR, CHIP	(2012)
C415	1-109-889-11	ELECT	1MF 20% 50V	JR435	1-216-295-91	CONDUCTOR, CHIP	(2012)
C416	1-126-964-11	ELECT	10MF 20% 50V	JR499	1-216-295-91	CONDUCTOR, CHIP	(2012)
C420	1-163-031-11	CERAMICCHIP	0 01MF 50V	<TRANSISTOR>			
C441	1-126-967-11	ELECT	47MF 20% 16V	Q401	8-729-422-27	TRANSISTOR	2SD601A-Q
C470	1-126-967-11	ELECT	47MF 20% 16V	Q405	8-729-216-22	TRANSISTOR	2SA1162-G
C471	1-128-551-11	ELECT	22MF 20% 25V	Q406	8-729-216-22	TRANSISTOR	2SA1162-G
<FILTER BLOCK>				<RESISTOR>			
CM401	1-467-554-21	FILTER BLOCK, COMB		R401	1-247-804-11	CARBON	75 5% 1/4W
<CONNECTOR>				R402	1-216-113-00	METAL GLAZE	470K 5% 1/10W
CN143	1-750-395-11	SOCKET, CONNECTOR 32P		R403	1-216-113-00	METAL GLAZE	470K 5% 1/10W
CN147	1-750-395-11	SOCKET, CONNECTOR 32P		R404	1-247-804-11	CARBON	75 5% 1/4W
<DIODE>				R407	1-247-804-11	CARBON	75 5% 1/4W
D401	8-719-110-17	DIODE RD10ESB2		R412	1-249-425-11	CARBON	4 7K 5% 1/4W
D402	8-719-110-17	DIODE RD10ESB2		R413	1-249-425-11	CARBON	4 7K 5% 1/4W
D408	8-719-110-17	DIODE RD10ESB2		R415	1-249-425-11	CARBON	4 7K 5% 1/4W
D409	8-719-110-17	DIODE RD10ESB2		R416	1-216-647-11	METAL CHIP	680 0 5% 1/10W
D410	8-719-110-17	DIODE RD10ESB2		R417	1-216-645-11	METAL CHIP	560 0 5% 1/10W
D411	8-719-110-17	DIODE RD10ESB2		R418	1-216-025-91	METAL GLAZE	100 5% 1/10W
<IC>				R421	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W
IC401	8-759-634-69	IC M52470P		R425	1-216-065-00	METAL GLAZE	4 7K 5% 1/10W
IC403	8-759-711-32	IC NJM2245M		R431	1-216-045-00	METAL GLAZE	680 5% 1/10W
IC404	8-759-164-18	IC MM1118XFF		R432	1-216-045-00	METAL GLAZE	680 5% 1/10W
<JACK>				R434	1-216-045-00	METAL GLAZE	680 5% 1/10W
J401	1-750-515-11	TERMINAL BLOCK,S 3P		R435	1-216-045-00	METAL GLAZE	680 5% 1/10W
<CHIP CONDUCTOR>				R439	1-216-049-91	METAL GLAZE	1K 5% 1/10W
JR402	1-216-295-91	CONDUCTOR, CHIP	(2012)	R440	1-216-025-91	METAL GLAZE	100 5% 1/10W
JR405	1-216-295-91	CONDUCTOR, CHIP	(2012)	R441	1-216-049-91	METAL GLAZE	1K 5% 1/10W
JR408	1-216-295-91	CONDUCTOR, CHIP	(2012)	R442	1-216-025-91	METAL GLAZE	100 5% 1/10W
JR409	1-216-295-91	CONDUCTOR, CHIP	(2012)	R443	1-216-025-91	METAL GLAZE	100 5% 1/10W
JR410	1-216-295-91	CONDUCTOR, CHIP	(2012)	R444	1-216-095-00	METAL GLAZE	82K 5% 1/10W
JR411	1-216-295-91	CONDUCTOR, CHIP	(2012)	R450	1-216-627-11	METAL CHIP	100 0 5% 1/10W
*****				R453	1-208-784-11	METAL CHIP	1 2K 0 5% 1/10W
				R454	1-216-025-91	METAL GLAZE	100 5% 1/10W

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO	PART NO.	DESCRIPTION	REMARK	REF. NO	PART NO	DESCRIPTION	REMARK
		MISCELLANEOUS *****					
	A 1-402-952-11	COIL, DEMAGNETIZATION			* 4-041-259-01	BAG, PROTECTION	
	1-417-178-11	SELECTOR, ANTENNA (AS-2) (KV-32V16)			* 4-041-362-01	HINGE SET (KV-32TW67/32TW68)	
	1-504-524-11	SPEAKER (8CM) (KV-32V16)			4-043-736-01	FILTER, MOUSE (KV-32V16)	
	1-504-531-11	SPEAKER (13 1X6 2CM) (KV-32S12/32S16)			4-043-737-01	HOLDER, FILTER (KV-32V16)	
	1-544-549-11	SPEAKER (KV-32TW67/32TW68)				REMOTE COMMANDER *****	
	A 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V			1-466-966-11	REMOTE COMMANDER (RM-Y116)	
	* 1-751-135-11	CABLE, PIN (KV-32V16)				(KV-32S16 (Canadian))	
	* 1-751-136-11	CABLE, PIN (KV-32V16)			9-903-826-01	COVER, BATTERY (FOR RM-116) (KV-32S16 (Canadian))	
	1-766-374-11	PLUG, F-PIN (KV-32S12/32S16/32TW67/32TW68)			1-467-059-21	REMOTE COMMANDER (RM-Y118)	
	A 8-451-315-41	DEFLECTION YOKE Y34FXA (VTM)				(KV-32TW67/32TW68)	
V901	A 6-733-739-05	PICTURE TUBE (A80JYV51X)			9-903-826-01	COVER, BATTERY (FOR RM-118) (KV-32TW67/32TW68)	
		ACCESSORIES AND MATERIALS *****			1-467-621-11	REMOTE COMMANDER (RM-Y121)	
	X-4031-138-1	DOOR ASSY, GLASS (KV-32TW67/32TW68)				(KV-32S12/32S16 (US)/32V16)	
	1-769-181-11	MOUSE, INTERJENT CABLE (KV-32V16)			9-907-089-01	COVER, BATTERY (FOR RM-Y121)	
	2-352-981-01	SPACER (KV-32WT67/32TW68)				(KV-32S12/32S16 (US)/32V16)	
	2-359-505-01	RETAINER, MAGNET (KV-32TW67/32YV68)					
	* 3-704-356-01	SHEET (STANDARD), PROTECTION					
		(KV-32TW67/32TW68)					
	3-756-618-21	MANUAL, INSTRUCTION (ENGLISH)					
		(KV-32TW67 /32TW68)					
	3-756-618-41	MANUAL, INSTRUCTION (SPANISH)					
		(KV-32TW67 /32TW68)					
	3-758-286-21	MANUAL, INSTRUCTION (ENGLISH)					
		(KV-32S16 (Canadian))					
	3-758-286-31	MANUAL, INSTRUCTION (FRENCH)					
		(KV-32S16 (Canadian))					
	3-758-289-21	MANUAL, INSTRUCTION (ENGLISH)					
		(KV-32S12/32S16 (US)/32V16)					
	3-758-289-31	MANUAL, INSTRUCTION (FRENCH)					
		(KV-32S12 (Canadian) /32V16 (Canadian))					
	3-758-289-41	MANUAL, INSTRUCTION (SPANISH)					
		(KV-32S12 (US) /32S16 (US) /32V16 (US))					
	3-758-287-21	MANUAL, INSTRUCTION, CABLE MOUSE					
		(KV-32V16 (US))					
	3-758-287-31	MANUAL, INSTRUCTION, CABLE MOUSE					
		(KV-32V16 (Canadian))					
	3-758-287-41	MANUAL, INSTRUCTION, CABLE MOUSE					
		(KV-32V16 (US))					
	* 4-030-895-01	JOINT (KV32TW67/32TW68)					
	* 4-040-144-01	CUSHION (LOWER) (ASSY) (KV-32S12/32S16)					
	* 4-040-413-01	CUSHION (LOWER) (ASSY) (KV-32TW67/32TW68)					
	* 4-043-598-01	CUSHION (LOWER) (ASSY) (KV-32V16)					
	* 4-040-146-01	INDIVIDUAL CARTON (KV-32S12/32S16)					
	* 4-040-420-02	INDIVIDUAL CARTON (KV-32TW67/32TW68)					
	* 4-043-599-01	INDIVIDUAL CARTON (KV-32V16)					
	* 4-040-412-01	CUSHION (UPPER) (ASSY) (KV-32TW67/32TW68)					
	* 4-043-597-01	CUSHION (UPPER) (ASSY) (KV-32V16)					
	* 4-044-388-01	CUSHION (UPPER) (ASSY) (KV-32S12/32S16)					
	* 4-040-414-01	SHEET, CORRUGATED FIBERBOARD					
		(KV-32TW67/32TW68)					
	* 4-040-416-01	TRAY (KV-32TW/32TW68)					
	4-041-162-01	PIN, RACK (KV-32TW67/32TW68)					